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#### **SECTION C-1**

## GENERAL REQUIREMENTS

#### 1.0 GENERAL REQUIREMENTS.

**1.1 SCOPE.** Provide personnel and management necessary to operate the National Weather Service (NWS) Telecommunication Gateway (NWSTG) located in Silver Spring, Maryland. The NWSTG is a data switching and communication facility operated to ensure the continuous acquisition and dissemination of NWS domestic and foreign hydro meteorological data and products. NWSTG is the United States interface to the worldwide operational data distribution system called the Global Telecommunications System in support of the World Meteorological Organization (WMO) for the exchange of vital environmental and weather data. This mission critical function of the NWS supports the protection of life and property and the enhancement of the national economy.

Provide equipment, tools and materials except for those items or services specifically stated in Section C.3 and Technical Exhibit (TE) 3 as government-furnished. The services shall be performed in accordance with regulations inclusive of changes, supplements, specifications, drawings, attachments and exhibits contained herein or incorporated by reference. The functional areas include:

- Telecommunications Support
- Switch Operations
- Automated Surface Observing Systems (ASOS) Operations and Monitoring Center
- Systems Monitoring and Coordination Center
- **1.2 PHASE-IN PLAN and PHASE-IN.** Contract Award Date (baseline zero); Phase-in Plan Delivery (30 calendar days after contract award); government review (next 30 calendar days after phase-in plan delivery); Service Provider Phase-In (60 calendar days after contract award); Performance Start Date/Start of Contract Base Period (120 calendar days after contract award). During Phase-In prepare to assume full responsibility for areas of operation in accordance with the terms and conditions of this contract. Take actions necessary for a smooth transition of the contracted operations. The government will make appropriate facilities and equipment available to the Service Provider for a maximum of 60 calendar days prior to the contract performance start date for observation and for Phase-In requirements of this contract. During the Phase-In period:
- **1.2.1** Recruit. Recruit and hire necessary personnel.
- **1.2.2** Deliverables. Develop and submit any required deliverables.
- **1.2.3** Meetings. Attend post-award meetings.
- **1.2.4** Training. Accomplish training to support the functions listed in Section C.5.

#### **SECTION C-1**

## GENERAL REQUIREMENTS

#### 1.3 PERSONNEL GENERAL.

- **1.3.1** General Employee Qualifications. Service Provider employees shall be trained and qualified under the requirements specified. Maintain the work force in such a manner as to ensure that the employees remain fully qualified. Service Provider employees must be fluent in English both written and verbal.
- **1.3.2** Project Management. Provide a Project Manager or designated alternate on-site throughout the term of the contract. The Project Manager and designated alternate shall be authorized to act on behalf of the Service Provider for matters to include the authority to bind the Service Provider and be designated in writing to the Contracting Officer at Phase-In start date. The Project Manager or designated alternate shall be on-site, Monday through Friday, excluding Federal holidays. The Project Manager or designated alternate shall be available for emergency situations. The Project Manager shall act as a central point of contact with the government. The Project Manager, or designated representative, shall be required to attend briefings, conferences and other government designated meetings.
- **1.3.3** Employee Conduct. Government rules, regulations, laws, directives and requirements, which are in place or issued relating to law and order, administration, safety, and security shall be applicable to Service Provider employees.
- **1.3.4** Employee Badges. Personnel shall visibly display government furnished identification badges.
- 1.3.5 Security Checks.

#### **1.3.5.1** Operational Access.

A National Agency Check and Inquiries (NACI) check will be required of all Service Provider personnel. Service Provider personnel must have U.S. citizenship. These personnel shall complete the following forms with the pertinent personnel data:

- National Oceanic and Atmospheric Administration (NOAA) Form 65-8, Request for Security Services;
- FD-258, Fingerprint Applicant;
- Standard Form (SF) 85, Questionnaire for Non-Sensitive Positions;
- Fair Credit Reporting Act of 1970, as amended (no form number); and,
- Optional Form (OF) 306, Declaration for Federal Employment.

The government will complete NOAA Form 65-8 for funding purposes. Service Provider personnel will report to the NOAA security office, Building SSMC4, fifth floor room 5338, with the completed forms. Service Provider personnel may be provided with temporary access until

#### **SECTION C-1**

## **GENERAL REQUIREMENTS**

the investigation has been completed. The government will perform the necessary checks and adjudicate the findings as follows:

- A clear check will result in issuance of a NOAA access badge.
- Checks identified with issues will result in the Contracting Officer's Technical Representative (COTR) finding either: 1) further investigation is necessary; or, 2) the employee will not be allowed access to the facility.

In the event a Service Provider employee is not allowed access or a replacement employee is proposed, the government will perform an investigation on a replacement candidate at Service Provider expense.

- **1.3.5.2** Backup Facility Access. During the second quarter of fiscal year 2004, the government will establish a backup facility located on Federal Emergency Management Agency (FEMA) property in Mt. Weather, VA. Service Provider employees must have U.S. Citizenship and social security number for a FEMA security investigation. In the event a Service Provider employee is not allowed access or a replacement employee is proposed, the government will perform an investigation on a replacement candidate at Service Provider expense.
- **1.3.6** Orientation Training. The government will conduct orientation training for initial Service Provider personnel. Replacement personnel orientation training is the responsibility of the Service Provider. The orientation shall include, but not be limited to the following:
  - The role of the respective functional area
  - The respective functional area's general work requirements
  - Safety
  - Information security
- **1.4 PLANNING, CONTROL AND PROCEDURAL DOCUMENTS.** Develop, implement and maintain planning, control and procedural documents. Implement and maintain a security program for control of personnel, property and information, documents and records.
- **1.5 MEDIA INFORMATION.** All media contacts will be referred to COTR.
- **1.6 DATA AND INFORMATION.** Attend and participate in scheduled and unscheduled meetings to provide effective communication and impart necessary information. These meetings may include both on-site and off-site events.
- **1.7 WORKLOAD.** The workload data displayed in Section C.5 is based on historical outputs or effort related to a specific function for a stated period of time. Trouble tickets, log events and call data are seasonal and weather dependent; therefore the information provided is for staffing information only and does not reflect actual numbers that may be experienced by the Service Provider. These figures are based on fiscal year 2001 and 2002 historical data and have been projected for the entire performance period.

#### **SECTION C-1**

## GENERAL REQUIREMENTS

The workload is continuous over each 24 hour period 7 days a week, 365 days a year. There is a slight increase in normal workload Monday through Friday from 7 AM EST to 7 PM EST because of scheduled system switches, tests, preventative maintenance and in-house software or hardware implementations. Weather and external factors that are beyond our control may cause substantial changes in data volumes and required support at any time. Outages of all types and customer requests can occur at any time.

- **1.8 HOURS OF OPERATION.** Services are 24 hours per day, 7 days per week including holidays unless identified elsewhere in this contract.
- **1.9 FACILITY MAINTENANCE.** Coordinate requested facility-related maintenance, repairs and upgrades to facilities listed in TE-3 with the designated government representative.
- **1.10 DOCUMENT REQUIREMENT.** All documents and deliverables shall be provided to the government utilizing WordPerfect products.

#### **SECTION C-2**

# **ACRONYMS/DEFINITIONS**

#### 2.0 Acronyms/Definitions

#### 2.1 Acronyms/Ab breviations.

**ABACUS** Automated Weather Observing System (AWOS)/ASOS (ADAS) Backup

System

**ACCB** ASOS Configuration Control Board

**ADAS** AWOS/ASOS Data Acquisition System

**ALDARS** Automated Lightning Detection and Reporting (Ranging) System

**AMSS** Automated Surface Observing System Maintenance Support System

**ANBURS** Alphanumeric Backup Replacement System

**AOMC** ASOS Operations and Monitoring Center

**APMC** ASOS Program Management Committee

**ASOS** Automated Surface Observing System

**ASWG** ASOS Software Working Group

**AWIPS** Advanced Weather Interactive Processing System

**AWOS** Automated Weather Observing Site

**CADAS** Centralized Automated Data Acquisition System

**COTR** Contracting Officer's Technical Representative

**CSU** Channel Service Unit

**DDR** Data Disk Restore

**ECC** Executive Communications Center

**EMRS** Engineering Management Reporting System

**ESA** Extended System Architecture

**FAA** Federal Aviation Administration

**FEMA** Federal Emergency Management Agency

**FTP** File Transfer Protocol

**GFP** Government Furnished Property

**GISRA** Government Information Security Reform Act

**GMDSS** Global Maritime Distress and Safety System

#### **SECTION C-2**

# **ACRONYMS/DEFINITIONS**

**GTA** Ground-To-Air

**IBM** International Business Machines

**ISCS** International Satellite Communications System

**LAN** Local Area Network

**METAR** Meteorological Aviation Report

**NACI** National Agency Check and Inquiries

**NCDC** National Climatic Data Center

**NCEP** National Center of Environmental Prediction

**NCF** Network Control Facility

**NOAA** National Oceanic and Atmospheric Administration

**NWS** National Weather Service

**NWSTC** National Weather Service Training Center

**NWSTG** NWS Telecommunication Gateway

**NWWS** NOAA Weather Wire System

**OF** Optional Form

**OTR** Operational Trouble Report

**RADAR** Radio Detection and Ranging

**RFC** River Forecast Center

**RFI** Radio Frequency Interference

**RTH** Regional Telecommunication Hub

**SDM** Senior Duty Meteorologist

**SF** Standard Form

**TE** Technical Exhibit

**TOC** Telecommunication Operations Center

**TT** Trouble Ticket

**WAFS** World Area Forecast System

**WFO** Weather Forecast Office

**WMO** World Meteorological Organization

# **SECTION C-2**

# **ACRONYMS/DEFINITIONS**

**WMSCR** Weather Message Switching Center Replacement

**WSOM** Weather Service Operations Manual

VM Virtual Machine

**VSAT** Very Small Aperture Terminal

#### **SECTION C-2**

# **ACRONYMS/DEFINITIONS**

**2.2 Definitions.** The definitions set forth below are those unique to this contract. The listing of definitions is not all-inclusive.

**Administrative Bulletin** – a WMO formatted product, using a defined identifier that does not contain weather data but does contain information on data status, requests for data, notice of upcoming events or outages, or anything deemed important for customer knowledge.

**Archive 5-Minute Data for Aircraft Incidents** - the process of remotely dialing into an ASOS and establishing a local archive of 5-minute observations for an hour before and an hour after the time of the aircraft incident.

**ASOS Operational Trouble Report** - ASOS Operational Trouble Report (OTR) contains information on system deficiencies or design flaws that have been diagnosed by the ASOS Operations and Monitoring Center (AOMC) or brought to our attention by technicians or customers. They will also include options and suggestions for correction.

**Complaint** - Complaints shall be classed as **Major** or **Minor** based upon one or more of the following factors:

- A. Service impact in terms such as number of circuits affected, length of outage, etc.
  - Complaints on outages of NWS communications paths that exceed maximum restoral times are major.
  - Complaints on outages that delay the start of model runs at NCEP are major.
  - Complaints about any unprofessional actions, unprofessional statements made to customers or failure to take reasonable actions to support customer requests are major.
- B. Level of management contacted by the client
  - Complaints to upper NWS management are always major
- C. Number of clients affected (complaints from more than one client about the same incident shall be counted as a single complaint).

Complaints relating to incidents where the operator's actions are found to be proper and within the quantitative requirements of the contract shall be judged **unjustifiable** and not counted against complaint count for the week/month, otherwise the complaint shall be classed as **justifiable** and counted.

Government COTR will make the determination as to classification as major or minor and, further, whether or not the complaint is justified against the operator.

#### **SECTION C-2**

## **ACRONYMS/DEFINITIONS**

**Corrective Action** - work necessary to restore a system back to operational functionality or data back to operational availability with the least possible impact to the operation. Action may include:

- Re-sending data
- Notifying common carriers, software support, contract support, technical support or hardware support
- Notifying distant end
- Notifying data originator
- Initiating communication backups
- Restarting modems/Channel Service Units (CSU)
- Correcting data
- Notifying data management or manipulating data queues
- Restarting servers
- Reloading front-end processors or routers
- Restarting virtual machines
- Switching to backup system
- Clearing Priority 3 Trouble tickets
- Notifying FAA/NWS ASOS technicians

**Critical Weather Day** - the Senior Duty Meteorologist (SDM) declares based upon actual or expected critical weather generating additional data flow. During this period non-critical changes (hardware, software, etc.) may not be accomplished unless directed by COTR or the designated government representative.

**Customer -** any user of weather data, website(s), or help desk. Customers include the general public, federal agencies, the Department of Defense, the Advanced Weather Interactive Processing System (AWIPS) Network Control Facility (NCF), the National Center of Environmental Prediction (NCEP) SDM, foreign countries and other Service Providers.

**Dooms Day Kit** - backup kit stored off-site for catastrophic failures. Dooms Day Kit may change as system requirements and databases are updated. Kit currently contains:

- Boxes of cartridge tapes with Data Disk Restore (DDR) information
- Floppy disks with all addresses in firewall with passwords and flash cards
- Master disk Map Listing
- Compact disks with router information
- Diskette with circuit drawing
- System directory listing

#### **SECTION C-2**

## **ACRONYMS/DEFINITIONS**

**Escalate Tickets** - process by which the failure currently flagged by an ASOS, or being investigated by an ASOS, warrants escalating it from a low level failure to a higher priority

**External Coordination** - coordination process that involves non-NWSTG persons or agencies. This is required when an event/implementation/test/outage at the NWSTG will result in an expected, direct impact on a group of customers.

**Event** - any situation that impacts or MAY impact NWSTG operations. Such "events" may include the SDM declaring a Critical Weather Day or an outage at some distant site (such as Europe, Asia or some government agency) that may affect data availability or timeliness.

**First Level Support** - the first entry level into the system where the controller on watch handles incoming callers looking for help or assistance.

**Host System** - International Business Machines (IBM) 9672 processor using the IBM Virtual Machine/Extended System Architecture (VM/ESA) operating system.

**Implementation** - process of making a new system, application, piece of equipment or data set operational. Sometimes this "implementation" may be replacing a previous version or installing a new item. Customers are notified on how this "implementation" affects the current data flow and what new functionality is being provided or what old functionality is being removed.

**Low Level Maintenance** - simple, routine maintenance actions flagged during routine internal diagnostic checks. Examples include but are not limited to changing printer ribbons and paper, and cable swaps.

**Major Complaint** - (see complaint)

**Major Event** - any upgrade, change, outage or test that affects the ability of the NWSTG or it's customers to conduct business.

**Manned Sites** - weather observing site where either observers and/or air traffic controllers provide backup or augmentation support.

**Manual Backup** - the process of manually switching a process, communication path or piece of hardware to an alternate.

**Minor Complaint** - (see complaint)

**Minor Event -** any upgrade, change, outage or test that affects the NWSTG or its customers to a lesser extent than a major event (e.g., outages on circuits that the NWSTG only transmits on do not effect any other customers, outages, scheduled or unscheduled, of such sort duration that will not be noticeable to customers, outages on receive circuits during very low data times, outages on circuits that have alternate sources of data.).

**Next Level Support** - the next level into the system where incoming callers, looking for help or assistance are routed when the controller on watch is unable to assist the caller.

#### **SECTION C-2**

## **ACRONYMS/DEFINITIONS**

**Non-Maintenance Issues** - issue that involves assisting or providing guidance to users where no maintenance support (technicians, programmers, etc.) is deemed necessary.

**Notification** - a coordination event with customers. For major implementations or tests the coordination is 30-90 calendar days in advance of the event. Minor implementations or tests are coordinated one (1) to two (2) calendar days in advance of the event or as directed by COTR.

**On-Time** - Global Maritime Distress and Safety System (GMDSS) meteorological areas have both navigational and meteorological information broadcast on a regularly scheduled basis, it is necessary to maintain an internationally coordinated broadcast schedule to allow all products to be broadcast without interference and to let mariners know when to expect specific products. The WMO in coordination with other international agencies has established broadcast schedules for SafetyNet traffic.

**Remote Backup** - the process of switching a process, communication path or piece of hardware to a remote off-site location in the event of catastrophic failure at the primary site.

**Required Backup Event** - a non-scheduled event caused by the failure of some operational system, communication path or software package for which a backup possibility exists. This backup enables routine or degraded operation to be restored.

**Routine Backup Event** - a scheduled switch to a backup system, communication path or software package to test the backup capabilities.

**Routine Software Backup** - disk backups to tape at scheduled time periods. These backups are performed at time periods and on systems that do not negatively impact the operations.

**Routine System Switches** - a regularly scheduled switch of a system to a backup. Performed to verify the availability of the alternate system in the event that this switch would be required due to system failure.

**STAR4** - a UNIX based computer processing system that receives the data feed from the International Satellite Communications System (ISCS)/World Area Forecast System (WAFS) broadcast. The system is capable of message receipt, storage, display, and file transfer protocol (FTP) applications. The STAR4 has optional software designed to permit construction and transmission of standard WMO meteorological messages to the Washington Regional Telecommunication Hub (RTH) when the very small aperture terminal (VSAT) is configured as a two-way site.

**SafetyNet Traffic -** a WMO formatted product, using a predefined identifier, that contains special marine forecasts and advisories that are broadcast to ships at sea at predefined intervals and as situations require.

**Site File Recovery and Restoration** - process of recovery and/or restoration of site specific data file(s) when problems have occurred with an ASOS sites specific configuration parameters, either locally with the ASOS or within the site data file housed at the NWSTG.

#### **SECTION C-2**

## **ACRONYMS/DEFINITIONS**

**Test** - may involve a temporary "implementation", to see the interaction with other operational processes and to give customers an opportunity to see new data sets and check their ingest and decoder processes. It may involve periodic checking of backup processes or hardware. It may involve a temporary modification to a particular data type to see if the impact is what is expected.

**Trouble Ticket Report** - the Trouble Ticket Report refers to the Trouble Ticket (TT) system implemented in the NWSTG. The TT system sorts all tickets by field. The fields include a TT identification number, the System involved, a category and Sub-category (The NWS provides the System, Category and Sub-category options), the event start and end times, customer fields if applicable and a problem description and resolution free text field. The report covers the period from the close of the previous TT report to 30 minutes before the delivery time.

**Unknown Queue** - a queue of all products that arrive at the NWSTG with improperly formatted identifiers, headers that are not in the switching directory or special headers that are flagged for distribution (e.g., administrative products).

**Unmanned Site** - ASOS site that does not have a qualified observer on the premises to augment the observations as required.

**Virtual Machine** - the functional equivalent of a computing system. Each virtual machine is controlled by an operating system. VM/ESA controls the concurrent execution of multiple virtual machines on an actual processor complex.

#### **SECTION C-3**

#### **GOVERNMENT PROPERTY AND SERVICES**

- **3.0 GENERAL.** The government will provide facilities and property as set forth below and in TE-3. The government will maintain property records. Facilities and property will be assessable to government personnel and other government contracted Service Providers, therefore, the government will maintain all facilities and property. The Service Provider shall be responsible for damage to facilities or property resulting from Service Provider personnel negligent acts.
- **3.1 FACILITIES**. The government will furnish or make available facilities to support Section C.5 requirements. Obtain COTR approval prior to constructing any new structures on government property or making any structural changes. Structural repairs or changes required shall be reported to the COTR for appropriate action. Government approved structural changes are at Service Provider expense. The government will furnish the operational facility located at 1325 East West Highway, Silver Spring Metro Center II, Room 6390, Silver Spring, MD 20910. Facility layout is available in the solicitation technical library. The contingency back-up site will be located at FEMA in Mt. Weather, VA with an anticipated start date for paragraph 5.2.5 performance during the second quarter of fiscal year 2004.

#### 3.2 SERVICES.

- **3.2.1** Utilities. The government will furnish electrical power, sewer services and water at no cost during performance. The Service Provider shall carefully conserve furnished utilities.
- **3.2.2** Telephone Service. The government will provide telephone service as required for official use only for local and long distance commercial calls.
- **3.2.3** Copy Machine. The government will provide access to two (2) copy machines for use in performance of this contract. The Service Provider, government, and other government contracted Service Providers will share the copy machines.
- **3.2.4** Facsimile Machine. The government will provide access to two (2) facsimile machines for use in performance of this contract. The Service Provider, government, and other government contracted Service Providers will share the facsimile machines.
- **3.2.5** Materials and Supplies. The government will provide materials necessary for the operation of all government provided equipment to include but not limited to printer paper, printer ribbons, and printer cartridges. The government will provide general office supplies for the performance of this contract.
- **3.2.6** Local Area Network. The government will provide access to the existing local area network (LAN) to include email capability.
- **3.2.7** Custodial. The government will furnish custodial services.
- **3.2.8** Equipment/S oftware Training. The government will furnish initial training for each functional area to Service Provider personnel. Training is to include information and procedures on all applications and processes that are unique to the NWSTG environment and will not

## **SECTION C-3**

#### **GOVERNMENT PROPERTY AND SERVICES**

include generally available training on standard operating systems, hardware and communication protocols. Change in Service Provider personnel will not result in additional training and will become the responsibility of the Service Provider. The government or its agent will provide training for equipment/software listed in technical exhibits as well as new equipment or software installed during the term of the contract. Training will occur at the government-furnished facility.

**3.2.9** Personnel Badges. The government will conduct security investigations on Service Provider personnel. Authorized Service Provider personnel will be provided with access badges to the facility.

**3.3 PROPERTY.** The government will make available the GFP listed in TE-3.

#### **SECTION C-4**

#### SERVICE PROVIDER-FURNISHED PROPERTY AND SERVICES

- **4.0 General.** Furnish all materials, supplies, tools, facilities and equipment required to perform this contract, except for those items or services specifically stated to be government-furnished in Section C.3 and TE-3. Government approval shall be required to install/remove Service Provider equipment to/from government furnished facilities.
- **4.1 Equipment.** Clearly mark all Service Provider owned equipment so as to be recognizable from government furnished equipment.
- **4.2 Removal of Equipment.** Within five (5) workdays after completion or termination of this contract, remove all Service Provider equipment, tools, supplies, materials and other items from the facility. The government will not be responsible for any Service Provider owned property left after contract completion or termination. The government will dispose of Service Provider owned property remaining after the time stated herein at Service Provider expense.

#### **SECTION C-5**

#### **TASKS**

**5.0 General.** Provide management and services to operate the NWSTG located in Silver Spring, Maryland.

Develop and maintain a customer-oriented culture, set expectations of quality, provide a motivating climate, solve problems, remove obstacles and deliver high-quality performance in a real time, operational environment.

Perform the requirements within this Performance Work Statement in accordance with the most current version of the referenced applicable documents. Mandatory documents shall be utilized in performance of all tasks called out in this section. Non-mandatory documents may be utilized in performance of these tasks.

Demonstrate a commitment to these customer-driven, service-related expectations by establishing procedures that achieve the global service objectives.

#### 5.1 Global Service Objectives.

- **5.1.1** Management Control. Provide proactive and flexible management control in the fulfillment of these support services.
- **5.1.2** Atmosphere. Foster an atmosphere in which the goal is focused on meeting the performance standards and customer expectations, set forth herein, and eliminating customer complaints.
- **5.1.3** Business Approach. Establish a business approach that embodies sound financial management concepts, supply discipline, flexibility and best business practices.
- **5.1.4** Resources. Provide quality personnel and resources, except those designated as government furnished, to accomplish requirements.
- **5.1.5** Metrics. Develop, maintain and analyze metrics for these services and employ a process of continuous improvement.
- **5.1.6** Support. Support/attend meetings, briefings, inspections, financial budgeting and reporting and prepare, maintain, submit or make accessible correspondence, records, reports and data associated with all work requirements.
- **5.1.7** Accountability. Ensure accountability for all government furnished assets and all facilities, systems and equipment assigned for operation.
- **5.1.8** Government Records, Information and Facilities. Prevent unauthorized access or release of government records, information and facilities.
- **5.2 Telecommuni cation Gateway.** Update and maintain the Trouble Ticket Report. Develop and update weekly metric information. Update operational procedures upon COTR or designated government representative notification. Staff a help desk for first and next level support. Open, track, update, and closeout trouble tickets. Trouble tickets shall be opened for all problems,

## **SECTION C-5**

#### **TASKS**

outages, complaints, questions, events and status notifications received. Perform low-level maintenance on government furnished equipment. Notify internal and external customers of situations that affect the customer process. Interface with and assist various maintenance Service Providers, government personnel, government agencies and non-government agencies. Monitor operational E-mail account for incoming messages concerning customer requests, data inquiries, operational instructions, event notification and other operational issues. Post events and system/data status to the web page. Provide written assessment of all performance complaints received by the service provider and NWS to include explanation and resolution.

|                   | <u>Service</u>   | Frequency            | <u>Occurrences</u>      |
|-------------------|--|----------------------|-------------------------|
| Trouble Ticket R  | eport  | Daily                | 1                       |
| On-Site Meetings  |  | Monthly              | 30                      |
| Off-Site Meetings | 3  | Yearly               | 20                      |
| <u>Reference</u>  | <u>Perfor</u>  | Performance Standard |                         |
| PS 5.2 - 1        | Electronic Trouble Ticket Report events that occurred up to 6:30AM   |                      | r than 7:00AM daily for |
| PS 5.2 - 2        | Escalate major events to the designated government representative within two (2) hours of occurrence 99% of the time. Remaining 1% within three (3) hours of the occurrence. |                      |                         |
| PS 5.2 - 3        | Notify customers of scheduled events more than two (2) hours before the event 95% of the time. Remaining 5% coordinated at least 30 minutes before the event.                |                      |                         |
| PS 5.2 - 4        | Notify customers of unscheduled major events not later than 15 minutes after start of the event 90% of the time. Remaining 10% within one (1) hour of the event.             |                      |                         |
| PS 5.2 - 5        | Notify customers of unscheduled major events within one (1) hour of end of the event 90% of the time. Remaining 10% within two (2) hours of end of the event.                |                      |                         |
| PS 5.2 - 6        | Provide outage, test or event status updates within one (1) hour of status change 90% of the time. Remaining 10% within two (2) hours of the status change.                  |                      |                         |
| PS 5.2 - 7        | Provide outage, test or event status updates within three (3) hours 90% of the time when no change has occurred.   |                      |                         |
| PS 5.2 - 8        | Notify SDM and AWIPS NCF of major events within 10 minutes of the event 95% of the time. Remaining 5% within 20 minutes of the event.  |                      |                         |

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| PS 5.2 - 9       | Read any messages in the operational email account(s) within one (1) hour of receipt 90% of the time. Remaining 10% within two (2) hours of receipt.   |
|------------------|--|
| <u>Reference</u> | Performance Standard   |
| PS 5.2 - 10      | Written complaint assessment delivered to COTR by close of business the following workday after the complaint was received 90% of time. Remaining 10% by the close of business on the second workday after the receipt of the complaint. |
| PS 5.2 - 11      | Major complaints shall not exceed one (1) per month 90% of the time  |
| PS 5.2 - 12      | Minor complaints shall not exceed three (3) per week 95% of the time   |

**5.2.1** Telecommunication Support. Monitor circuits, networks, and data exchange paths of the NWSTG. Diagnose telecommunication problems for carrier, communication protocol or data problem. Notify carrier(s) of problems, track resolution, implement backup procedures and notify interested end user(s). Formulate and transmit administrative bulletins for major and minor events. Monitor and correct unknown queue identifier errors. Coordinate with distant end and resolve problems. Coordinate with/assist maintenance technicians, programmers and other government personnel to resolve NWSTG problems. Document and maintain changes to customer contact information. Re-send, correct format and determine status, availability and distribution of customer data products.

| <u>Service</u>           | <u>Frequency</u> | <u>Occurrences</u> |
|--------------------------|------------------|--------------------|
| Trouble Ticket Documents | Monthly          | 1736               |
| Telephone Calls Incoming | Monthly          | 492                |
| Telephone Calls Outgoing | Monthly          | 390                |
| Dial Up Backup Events    | Monthly          | 2                  |
| Follow-Up Backup Events  | Monthly          | 1                  |
| Recovery Backup Events   | Monthly          | 1                  |
| Communication Events     | Monthly          | 1050               |
| Critical Events          | Monthly          | 5                  |
| Required Backup Events   | Monthly          | 3                  |
| Routine Backup Events    | Monthly          | 12                 |
| Data Events              | Monthly          | 368                |

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| Data Transmit L                | ost/Sent Events   | Monthly          | 687                                    |
|--------------------------------|---|------------------|--|
| Data Transmit Lost/Sent Events |   | •                |  |
| Unknown Queue                  |   | Monthly          | 21,210                                 |
|                                |   |                  | (Daily amounts range from 300 to 4000) |
| Test Backup Ever               | nts   | Monthly          | 1                                      |
|                                | <u>Service</u>  | <b>Frequency</b> | <u>Occurrences</u>                     |
| Equipment Event                | S   | Monthly          | 3                                      |
| Status Check Eve               | ents  | Monthly          | 162                                    |
| Reboot Events                  |   | Monthly          | 11                                     |
| Administrative B               | Administrative Bulletins Monthly 9  |                  | 9                                      |
| <u>Reference</u>               | Performance Standard  |                  |  |
| PS 5.2.1 - 1                   | Diagnose and initiate telecommunication corrective action within 15 minutes of error notification 95% of the time. Remaining 5% within one (1) hour of error notification.  |                  |  |
| PS 5.2.1 - 2                   | Diagnose and initiate network failure corrective action within 15 minutes of error notification 95% of the time. Remaining 5% within one (1) hour of error notification.  |                  |  |
| PS 5.2.1 - 3                   | Research, diagnose cause and validity of data problems, and initiate response and corrective action within 15 minutes of error notification 95% of the time. Remaining 5% within one (1) hour or error notification.                      |                  |  |
| PS 5.2.1 - 4                   | Review 100% of the unknown queue once an hour 98% of the time. Correct at least 20% of product identifier errors in the unknown queue within one (1) hour of receipt 75% of the time. Remaining 25% within two (2) hours of data receipt. |                  |  |

**5.2.2** Switch Operations. Monitor and operate the switching system, servers, routers, front-end processors, packet switches and associated peripheral equipment. Diagnose failures and take corrective action to restore service. Initiate backup procedures. Monitor progress, escalate when necessary, and obtain current status of the completion of external software/hardware repair. Monitor and document system performance. Develop, maintain and provide system documentation to include operating instructions, procedures and training plans. Backup Dooms Day Kit and transport to off-site location. Document and maintain changes to customer contact information. Review proposed major system changes, both hardware and software, and provide input to the COTR on operational impact or feasibility.

| <u>Service</u> | <b>Frequency</b> | <u>Occurrences</u> |
|----------------|------------------|--------------------|
|----------------|------------------|--------------------|

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| Dooms Day Kit                   |   |                  |                    |
|---------------------------------|---|------------------|--------------------|
| -                               | pes with Data Disk Restore  | Quarterly        | 1                  |
|                                 | rmation and Flash Cards   | Quarterly        | 1                  |
| -Mdisk Map L                    | isting  | Quarterly        | 1                  |
| -Router Inform                  | nation  | Quarterly        | 1                  |
| -Circuit Draw                   | ing   | Quarterly        | 1                  |
| -System Direc                   | tory Listing  | Quarterly        | 1                  |
| Disk Backup                     |   | Daily            | 8                  |
|                                 | <u>Service</u>  | Frequency        | <u>Occurrences</u> |
| Transport Dooms                 | Day Kit   | Quarterly        | 1                  |
| Trouble Ticket Do               | ocuments  | Monthly          | 1560               |
| Telephone Calls I               | ncoming   | Monthly          | 562                |
| Telephone Calls C               | Outgoing  | Monthly          | 559                |
| Application Actio               | ons Monthly 140   |                  | 140                |
| Application Resta               | arts Monthly 1  |                  | 1                  |
| Required Backups                | Monthly 5   |                  |                    |
| Routine Backups                 | Monthly 12  |                  | 12                 |
| Circuit Events                  |   | Monthly          | 2                  |
| RADAR Image E                   | vents   | Monthly          | 684                |
| Status Events                   |   | Monthly          | 684                |
| System Action Events Monthly 20 |   | 20               |                    |
| System Restart Events           |   | Monthly          | 7                  |
| Reference                       | Dorf  | ormanca Standard |                    |
|                                 | Performance Standard  |                  |                    |
| PS 5.2.2 - 1                    | Diagnose and initiate recovery steps within 15 minutes of any system (to include software, hardware or network) failure indication 95% of the time. Remaining 5% within one (1) hour of failure indication. |                  |                    |

**5.2.3** Automated Surface Observing Systems Operations and Monitoring Center. Provide monitoring oversight of deployed NWS and Federal Aviation Administration (FAA) sponsored ASOS sites. Monitor ASOS sites for functionality and timely delivery of system products, including ALDARS information. Document non-maintenance related issues for ASOS sites in the Trouble Report system log entries. Coordinate dispatching of technician(s) with the Weather Forecast Office (WFO). Coordinate with/assist network providers or government agencies to include but not limited to the FAA, WFOs, River Forecast Centers (RFC), and the AWIPS NCF

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for outages involving the long-line distribution of ASOS Meteorological Aviation Report (METAR) products. Maintain and manage dedicated ASOS site-specific data files for all fielded ASOS sites other than Department of Defense overseas ASOS sites. Provide site file recovery and restoration support for ASOS site-specific configuration files. Maintain ASOS peak wind algorithm criteria data sets and implement changes to ASOS as required. Perform AOMC system backups/archiving. Provide technical information and assistance for ASOS users. Provide technical assistance with scheduled and/or emergency field changes and upgrades involving deployed ASOS systems. Archive aircraft incident five (5) minute data or extreme weather events and provide copies as requested by the COTR. Provide data support for configuration management of the Engineering Management Reporting System (EMRS) system with daily summary of all processed trouble tickets. Monitor and operate all AOMC systems and associated peripheral equipment. Diagnose all failures and take corrective action to restore service.

5.2.3.1 AOMC System Administration. Perform system administration for AOMC servers, workstations, and associated systems. Analyze, design, develop and implement changes and upgrades to AOMC web page(s). Manage and maintain AOMC Web page(s). documentation on all requests and fixes for AOMC Web pages. Manage and maintain the AOMC Maintenance Support System (AMSS) Trouble Ticket database. Ensure trouble ticket information is posted to the web site. Manage and maintain government-furnished software using NOTRIX, REXX and Visual Basic. Manage and maintain AOMC-to-National Climatic Data Center (NCDC) site-specific data file changes program. Manage, maintain, and provide administrative support for internal NWSTG voice-mail system. Provide technical support in defining and/or designing enhancements and/or upgrades with the AOMC maintenance monitoring programs and processes involving ASOS. Provide administrative support and assistance in tracking changes and/or updates with ASOS software, hardware, and site-specific information Establish procedures/processes for creating new site-specific data files to support changes to the ASOS system requiring new site-specific parameter data file(s). Define, design, coordinate, and implement all software/hardware upgrades and/or enhancements with the AOMC/AMSS servers, Lotus Notes/Domino, Procomm and the required operating system. Monitor for intruders attempting to gain access to the AOMC background systems, maintain security oversight for all AOMC systems and take corrective action when questionable users/activities are discovered. Review and implement AOMC Government Information Security Reform Act (GISRA) form biannually Coordinate and provide video teleconference training session to NWS field technicians attending the NWS ASOS Technician course at the NWS Training Center (NWSTC). Provide technical assistance, and support. Provide support and coordinate responses to international ASOS and AOMC requests for information with the COTR. Develop and provide presentations on the AOMC mission and support of ASOS. Provide input and support for NWS and FAA surface observing rules, policies, and procedures. Provide input and support for NWS and international meteorological requirements, policies, and procedures. Provide technical guidance, support and assistance for NWS and FAA network communications

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systems. Provide technical assistance to technicians for implementation of ASOS system upgrades and/or enhancements. Provide input on change impact, provide program guidance and ensure that the AOMC maintains and can support ASOS standards and objectives by attending ASOS Configuration Control Board (ACCB) meetings, ASOS Program Management Committee (APMC) meetings and ASOS Software Working Group (ASWG) meetings. Review all proposed or pending changes, upgrades or enhancements and provide follow-up status.

| <u>Service</u>   | Frequency                        | <u>Occurrences</u>                           |
|--|----------------------------------|--|
| Trouble Tickets Documents  | Annually                         | 104,500                                      |
| Telephone Calls Incoming   | Monthly                          | 4,454  |
| <u>Service</u>   | <u>Frequency</u>                 | <u>Occurrences</u>                           |
| Telephone Calls Outgoing   | Monthly                          | 3,958  |
| Disk Backup  | Daily                            | 1  |
| Backup/Archive Data  | Daily                            | 1  |
| Backup/Archive Data (One [1] Month)                              | Monthly                          | 1  |
| Site specific support Data Base maintenance                      | Monthly                          | 2  |
| System Administration  | Weekly                           | 1  |
| Security (System, Network)                                       | Daily                            | 1  |
| Database Administration Access Control Indexes Compact/Archiving | Monthly                          | 1  |
| EMRS Input   | Daily                            | 1  |
| METARs with maintenance flag                                     | Monthly                          | 59,095                                       |
| Technician Training Session                                      | Quarterly                        | 1  |
| Lotus Notes Database   | Annually<br>Annually<br>Annually | 23 Forms<br>87 Views<br>26 Agents (98 lines) |
| REXX Programs (Seven Programs)                                   | Annually                         | 2,418 Lines of Code                          |
| International AOMC Requests                                      | Annually                         | 1  |

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| Government AON                        | AC Requests  | Annually         | 12  |
|---------------------------------------|--|------------------|---|
| Industry AOMC F                       | Requests   | Annually         | 4   |
| Public AOMC Re                        | quests   | Annually         | 12  |
| International ASC                     | OS Requests  | Annually         | 1   |
| Government ASO                        | S Requests   | Annually         | 5   |
| Industry ASOS Re                      | equests  | Annually         | 1   |
| ACCB Meeting                          |  | Annually         | 4   |
| APMC Meeting                          |  | Annually         | 4   |
|                                       | <u>Service</u>   | <u>Frequency</u> | <u>Occurrences</u>  |
| ASWG Meeting                          |  | Annually         | 4   |
| Public ASOS Req                       | uests  | Annually         | 1   |
| International AO                      | MC Presentations Annually 1  |                  | 1   |
| Government AON                        | MC Presentations Annually 2  |                  |   |
| Industry AOMC I                       | Presentations Annually 2   |                  | 2   |
| Public AOMC Pre                       | Public AOMC Presentations  |                  | 2   |
| -30-Day N<br>-Hourly Ol<br>-Daily Log | FAA Report NWS Report Observations  Annually Ann |                  | 1,089 Lines of Code<br>714 Lines of Code<br>551 Lines of Code |
| <u>Reference</u>                      | Performance Standard   |                  |   |
| PS 5.2.3 - 1                          | Manual trouble tickets opened within one (1) hour of error notification 95% of time. Remaining 5% opened within two (2) hours of error notification.   |                  |   |
| PS 5.2.3 - 2                          | All trouble tickets closed within one (1) hour of site restoration notification 95% of time. Remaining 5% closed within two (2) hours of restoration notification.   |                  |   |
| PS 5.2.3 - 3                          | Diagnose priority 1 and 2 failures and initiate notification within one (1) hour of opening the trouble ticket 95% of the time. Remaining 5% within two (2) hours of opening the trouble ticket.   |                  |   |

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| PS 5.2.3 - 4     | Diagnose priority 3 failures and initiate corrective action for site within one (1) hour of opening the trouble ticket 90% of the time. Remaining 10% within two (2) hours of opening the trouble ticket. Clear 30% of priority 3 trouble tickets in house.   |
|------------------|---|
| PS 5.2.3.1 - 1   | Web Page operational 98% of time  |
| PS 5.2.3.1 - 2   | Web page checked every two (2) hours to ensure trouble ticket information is posting 100% of time. Diagnose posting failures and initiate corrective action within fifteen (15) minutes of error detection 90% of time. Remaining 10% within one (1) hour of error detection.   |
| PS 5.2.3.1 - 3   | Validate availability of all internal AOMC systems to include hardware, software and applications at the start of shift 100% of time. Diagnose availability failures and initiate corrective action within fifteen (15) minutes of error detection 90% of time. Remaining 10% within one (1) hour of error detection. |
| <u>Reference</u> | Performance Standard  |
| PS 5.2.3.1 - 4   | Validate availability of the Lotus Notes, Domino and Notrix databases at the start of shift 100% of time. Diagnose availability failures and initiate corrective action within fifteen (15) minutes of error detection 90% of time. Remaining 10% within one (1) hour of error detection.                             |
| PS 5.2.3.1 - 5   | Backup systems available or can be made available whenever the primary system fails 100% of time.   |

**5.2.4** Systems Monitoring and Coordination Center. Monitor end-to-end data flow of NWS Diagnose problems and coordinate with/assist data originator(s), dissemination systems. customer(s), other Service Provider(s) support personnel and other government agencies to resolve problems. Send STAR4 site outage message. Monitor and ensure RADAR images are posted to regional headquarters servers. Monitor the receipt of data from all RADAR sites. Initiate ANBURS backup. Post problem report to the web page. Document and maintain customer contact information. Perform Centralized Automated Data Acquisition System (CADAS) and Star4 system administration. Monitor and respond to the Executive Communications Center (ECC) "Red Phone". Monitor NWSTG group email accounts. Provide WAFS throughput analysis. Update NWSTG display sign. Monitor systems for other agencies' hardware on the computer floor and report alarms to these agencies. Monitor facility water detection system, air handler/cooling system, fire/smoke detection system, security entry system, electrical and uninterrupted power system, and emergency generator(s) at the operational and contingency sites. Monitor facilities through building alarms, telephone calls and observations. Notify personnel, take system action (power down or backup), evacuate personnel and confirm evacuation. Provide access to the facility for authorized personnel.

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| <u>Service</u>  | Frequency        | <u>Occurrences</u> |
|---|------------------|--------------------|
| Trouble Ticket Documents                                | Monthly          | 2154               |
| Telephone Calls Incoming                                | Monthly          | 291                |
| Telephone Calls Outgoing                                | Monthly          | 790                |
| Alpha Numeric Backup Replacement System (ANBURS) Events | Monthly          | 2                  |
| ANBURS Follow-up Events                                 | Monthly          | 2                  |
| <u>Service</u>  | <u>Frequency</u> | <u>Occurrences</u> |
| Communications Events                                   | Monthly          | 2                  |
| Critical Weather Events                                 | Monthly          | 2                  |
| Critical Events   | Monthly          | 1                  |
| Data Events   | Monthly          | 2                  |
| <u>Service</u>  | <u>Frequency</u> | <u>Occurrences</u> |
| Data Follow-up Events                                   | Monthly          | 1                  |
| GMDSS Events  | Monthly          | 60                 |
| GMDSS Follow-Up Events                                  | Monthly          | 1                  |
| Monitor Events  | Monthly          | 1                  |
| Information Events                                      | Monthly          | 1                  |
| Network Events  | Monthly          | 1                  |
| Network Follow-Up Events                                | Monthly          | 1                  |
| National Weather Wire Service (NWWS) Events             | Monthly          | 180                |
| NWWS Follow-Up Events                                   | Monthly          | 31                 |
| NWWS/Radio Detection and Ranging (RADAR) Events         | Monthly          | 2                  |
| RADAR Site Events                                       | Monthly          | 1518               |
| RADAR Follow-Up Events                                  | Monthly          | 223                |
| RADAR/ANBURS Events                                     | Monthly          | 1                  |
| Site Scan Events  | Monthly          | 58                 |
| Site Scan Follow-Up Events                              | Monthly          | 3                  |

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|                                 |  | <u> </u>            | <u> </u>       |
|---------------------------------|--|---------------------|----------------|
| Status Check Event              | nts Monthly  |                     | 48             |
| Building Evacuation             | n Events Monthly 1   |                     | 1              |
| Facilities Events               |  | Monthly             | 2              |
| Facilities Follow-Up            | Events   | Monthly             | 3              |
| Star4 System Admir              | nistration   | Yearly              | 1              |
| Executive Communications Center |  | Annual              | 3              |
| WAFS Thru put An<br>Zulu)       | alysis (0900 Zulu and 2000   | Daily               | 2              |
| DPLA DRIS Comn                  | nand (2359 EST)  | Daily               | 1              |
| <u>Reference</u>                | <u>Perfo</u>   | ormance Standard    |                |
| PS 5.2.4 - 1                    | Check CADAS hourly for prod  | luct production 969 | % of the time. |
| PS 5.2.4 - 2                    | Diagnose CADAS errors and initiate corrective action within thirty (30) minutes of error notification 95% of the time. Remaining 5% within two (2) hours of error notification.  |                     |                |
| <u>Reference</u>                | Performance Standard   |                     |                |
| PS 5.2.4 - 3                    | STAR4 site outage message not later than 1800 Zulu 95% of the time. Remaining 5% within two (2) hours of 1800 Zulu.  |                     |                |
| PS 5.2.4 - 4                    | Diagnose RADAR Multicast System site outages and take corrective action within 10 minutes of notification 90% of the time. Remaining 10% within 30 minutes of notification.      |                     |                |
| PS 5.2.4 - 5                    | Diagnose RADAR Multicast System failures and initiate corrective action within five (5) minutes of notification 95% of the time. Remaining 5% within 15 minutes of notification. |                     |                |
| PS 5.2.4 - 6                    | Initiate NWWS System corrective action to a site not on satellite uplink within 30 minutes of notification 90% of the time. Remaining 10% within one (1) hour of notification.   |                     |                |
| PS 5.2.4 - 7                    | Diagnose GMDSS System monitor failures and take corrective action within one (1) hour of monitor failure 90% of the time. Remaining 10% within two (2) hours of monitor failure. |                     |                |
| PS 5.2.4 - 8                    | Diagnose GMDSS data dissemination failures and initiate recovery within 15 minutes of the failure 90% of the time. Remaining 10% within one (1) hour of the failure.             |                     |                |
| PS 5.2.4 - 9                    | Initiate action for facilities alarms within five (5) minutes 100% of the time.  |                     |                |

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#### **TASKS**

| PS 5.2.4 - 10 | Diagnose WAFS broadcast errors and take corrective action within one (1) hour of notification 90% of the time. Remaining 10% within two (2) hours of notification.  |
|---------------|---|
| PS 5.2.4 - 11 | Diagnose RADAR Image posting outages and take corrective action within 15 minutes of notification 90% of the time. Remaining 10% within one (1) hour of notification.   |
| PS 5.2.4 -12  | Initiate the ANBURS backup system within 10 minutes of notification of service interruption with the FAA Weather Message Switching Center Replacement (WMSCR) system or the AWIPS NCF 95% of the time. Initiate within 20 minutes of notification the remaining 5% of the time. |

**5.2.5** Contingency Back-Up Site. Operate the contingency back-up site during any catastrophic event. Continuously monitor the site remotely to ensure equipment remains functional. Coordinate with/assist maintenance technicians, programmers and other government personnel to resolve functional problems. Conduct exercises utilizing the site. The contingency site will begin operation during the second quarter of fiscal year 2004.

|  | <u>Service</u>  | Frequency | <u>Occurrences</u> |
|--|---|-----------|--------------------|
| Unscheduled Operations                         |   | Yearly    | 1                  |
| (Beginning Second Quarter of Fiscal Year 2004) |   |           |                    |
| Scheduled Exercises                            |   | Quarterly | 1                  |
| (Beginning Second Quarter of Fiscal Year 2004) |   |           |                    |
| <u>Reference</u>                               | Performance Standard  |           |                    |
| PS 5.2.5 - 1                                   | Backup site fully operational within six (6) hours of a catastrophic event.   |           |                    |
| PS 5.2.5 - 2                                   | While backup site is not being used operationally, diagnose and initiate recovery steps within one (1) hour of any system (to include software, hardware or network) failure indication 95% of the time. Remaining 5% within three (3) hours of failure indication. |           |                    |

**5.2.6** Technological Enhancements. Assess government technological or operational enhancement proposals. Provide written assessment to the COTR. Implement approved technological enhancements.

| <u>Service</u>       | <u>Frequency</u> | <u>Occurrences</u> |
|----------------------|------------------|--------------------|
| Proposal Assessments | Annually         | 10                 |

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| <u>Reference</u> | Performance Standard   |
|------------------|--|
| PS 5.2.6 - 1     | Written assessments to COTR within five (5) workdays of receipt 90% of the time. Remaining 10% within 10 workdays. |
| PS 5.2.6 - 2     | Government approved technological/operational enhancements implemented within approved assessment milestones.      |

# **SECTION C-6**

# **APPLICABLE DOCUMENTS**

# 6.0 Applicable Do cuments.

# 6.1 Mandatory.

| Reference              | Number/Date   | Title   |  |  |
|------------------------|---|---|--|--|
| Department of Commerce |   |   |  |  |
| 1.3.3                  | Number/Date   | Department of Commerce Safety Plan  |  |  |
|                        | National Oceanic and Atmospheric  | c Administration  |  |  |
| 1.3.3                  | Number/Date   | National Oceanic and Atmospheric<br>Administration Evacuation Plan  |  |  |
|                        | National Weather Ser  | vice  |  |  |
| 1.3.3                  | Handbook 15 / date<br>Sections 3-5, 18, 19, 23-25 and 30                                    | National Weather Service Engineering Handbook (Occupational Safety and Health)  |  |  |
| 5.2                    | N/A   | On-Call List  |  |  |
| 5.2                    | http://205.156.54.206/pub/msgdist/nwstgdir.t<br>xt  | NWSTG Switching Directory   |  |  |
| 5.2.1                  | N/A   | Circuit Book Listing*   |  |  |
| 5.2.3                  | Weather Service Operations Manual (WSOM) Chapter H-54                                       | Automated Surface Observing System Maintenance  |  |  |
| 5.2.3                  | July 1996   | National Weather Service Modernization<br>and Associated Restructuring, Automated<br>Surface Observing System (ASOS) Site<br>Component Commissioning Plan |  |  |
|                        | stings contain sensitive information. This dat only. Sample diagrams will be made available |   |  |  |
|                        | Operational Procedu   | res   |  |  |
| 5.2                    | Operational Procedure 1, July 23, 2002  | Notification Procedures for Critical<br>NWSTG Outages   |  |  |
| 5.2                    | Operational Procedure 2, July 23, 2002  | Notification Methods  |  |  |
| 5.2.3                  | Operational Procedure 3, March 18, 2002   | Procedures for SiteScan Monitoring  |  |  |
| 5.2.4                  | Operational Procedure 4, July 23, 2002  | Operating Procedures for the Executive<br>Communications Center (ECC)   |  |  |

# **SECTION C-6**

# **APPLICABLE DOCUMENTS**

| Reference             | Number/Date                                | <u>Title</u>   |  |
|-----------------------|--|--|--|
|                       |  |  |  |
|                       | World Meteorological Or                    | ganization   |  |
| 5.2                   | Manual 386, Part II, Attachment II-5; 1991 | Manual on the Global Telecommunication<br>System (World Meteorological   |  |
|                       | http://205.156.54.206/oso/table            | Organization Tables)   |  |
| Interagency Agreement |  |  |  |
| 5.2                   | September 1, 2000                          | Interagency Agreement Between the NOAA/NWS and the FAA for Operations, Maintenance and Planned Improvement of ASOS |  |
| 5.2.6                 | FEMA                                       | NLT 2 <sup>nd</sup> quarter FY 2004.   |  |
|                       | Forms                                      |  |  |
| 1.3.5.1               | NOAA Form 65-8                             | Request for Security Services  |  |
| 1.3.5.1               | FD-258                                     | Fingerprint Applicant  |  |
| 1.3.5.1               | SF-85                                      | Questionnaire for Non-Sensitive Positions  |  |
| 1.3.5.1               | N/A  | Fair Credit Reporting Act of 1970 as amended   |  |
| 1.3.5.1               | OF-306                                     | Declaration for Federal Employment   |  |

# 6.2 Advisory.

| <u>Reference</u> | Number/Date   | <u>Title</u>   |  |  |
|------------------|---|--|--|--|
|                  | Operational Procedures  |  |  |  |
| 5.2.3            | Operational Procedure #001, May 01, 1996, Updated December 10, 1996 | Creating The AOMC Daily Logs   |  |  |
| 5.2.3            | Operational Procedure #002  | Clearing Of "Priority 3" Errors Flagged by ASOS  |  |  |
| 5.2.3            | Operational Procedure #003 and 003a,<br>January 06, 1998            | Daily Update Of AMSS Agents  |  |  |
| 5.2.3            | Operational Procedure #004, February 20, 1998                       | AOMC Voice Mail Service  |  |  |
| 5.2.3            | Operational Procedure #005  | Update Of AOMC Watch-To-Watch Turnover Requirements: Tracking Of Missing Observation Trouble Tickets |  |  |

# **SECTION C-6**

# **APPLICABLE DOCUMENTS**

| Reference       | Number/Date  | <u>Title</u>  |  |
|-----------------|--|---|--|
| 5.2.3           | Operational Procedure #006, September 03, 1997, Updated June 22, 1998 and September 04, 1998 | AOMC/Engineering Management<br>Reporting System (EMRS) Data Files   |  |
| 5.2.3           | AOMC/AMSS Operational Procedure #007   | ASOS Ground-To-Air (GTA) Radio<br>Frequency Interference (RFI) Reports  |  |
| 5.2.3           | Operational Procedure #008 and 008a,<br>December 01, 1998                                    | AOMC/ASOS Backup System (ABACUS) (ASOS Backup System) Daily Operation/Maintenance                                       |  |
| 5.2.3           | Operational Procedure #009, May 14, 1999   | Shutting Down/Rebooting The AMSS (ASOS Maintenance Monitoring System) Server  |  |
| 5.2.3           | Operational Procedure #010, May 14, 1999   | Moving To The AMSS ( <b>A</b> SOS <b>M</b> aintenance <b>M</b> onitoring <b>S</b> ystem) Backup Server                  |  |
| 5.2.3           | Operational Procedure #011, May 14, 1999   | Shutting Down/Rebooting The AOMC Background System (AMSS #3/AMSS #4)  |  |
| 5.2.3           | Operational Procedure #012, May 17, 1999   | Shifting Operations From The Primary AMOC Background System To The Backup System  |  |
| 5.2.3           | Operational Procedure #013, May 20, 1999   | Creating Site-Specific Data Files Using A Master File Template  |  |
| 5.2.3           | Operational Procedure #014, March 09, 2000   | Troubleshooting and Outage Reporting For The ASOS-Automated Lightning Detection and Reporting System (ALDARS) Interface |  |
|                 | Forms  |   |  |
| 5.2.2           | N/A  | Software Modification Form  |  |
|                 | Telecommunications Gatewa  | y Websites  |  |
| 5.2             | http://205.156.54.206/oso/index.shtml  | NWS Telecommunication Gateway   |  |
| Other Documents |  |   |  |

## **SECTION C-6**

#### APPLICABLE DOCUMENTS

| <u>Reference</u> <u>Number/Date</u> <u>Title</u> |
|--|
|--|

The Telecommunication Gateway maintains a technical library for the hardware associated with the operation. This technical literature is available to the Service Provider as advisory documents to assist in the analysis of hardware failures. The Service Provider, if so desired, may retain and maintain this data to assist its personnel. The government will provide new equipment documents, if required. Space is available for document storage.

The basis of the workload data was obtained from NWSTG logs. Samples of the unedited, unprocessed logs are available for review upon request.

# **FINAL**

# Quality Assurance Surveillance Plan National Weather Service Telecommunication Gateway

**CONTRACT NO.** 

**DATE:** 

#### **Contract Number:**

# Quality Assurance Surveillance Plan National Weather Service Telecommunications Gateway

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#### **GLOSSARY OF TERMS**

**NOTE:** Terms not used currently in this document will be implemented upon development of Section 4.0 which is based upon the Service Provider's Quality Control Plan.

**Acceptable Quality Level.** The maximum allowable percent defective (or defects per hundred units) for which lots will be accepted most of the time by the sampling procedures being used.

**Acceptance**. The act of an authorized representative of the government by which the government, for itself or as agent of another, assumes ownership of existing identified supplies tendered or approves specific services rendered as partial or complete performance of the contract.

**Contract Quality Requirements.** The technical requirements in the contract relating to the quality of the products or services and those contract clauses prescribing inspection, and other quality controls incumbent on the Service Provider, to assure that the product or service conforms to the contractual requirements.

**Contract Discrepancy Report.** Used to submit contract performance deficiencies through the contracting officer to the Service Provider for corrective action.

**Contracting Officer.** Government representative authorized to contract services and to execute and enforce contract provisions. The only authority allowed to direct the Service Provider. Responsible for approving the quality assurance surveillance plans.

**Contracting Officer's Technical Representative.** Government representative designated in writing by the contracting officer to assist in the administration of the service support contract. The authorities and limitations of the contracting officer's technical representative are contained in the letter of appointment.

**Critical Nonconformance.** A nonconformance that is likely to result in hazardous or unsafe conditions for individuals using, maintaining, or depending upon the supplies or services; or is likely to prevent performance of a vital agency mission.

**Government Contract Quality Assurance.** The various functions, including inspection, performed by the government to determine whether a Service Provider has fulfilled the contract obligations pertaining to quality and quantity.

**Inspection.** Examining and testing supplies or services to determine whether they conform to contract requirements.

**Latent Defect.** A defect that exists at the time of acceptance but cannot be discovered by a reasonable inspection.

**Lot.** A collection of service outputs from which, a sample is drawn and evaluated to determine conformance with the contract standard.

**Lot Size.** The total number of service outputs during a specified period of time.

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**Major Nonconformance**. A nonconformance, other than critical, that is likely to result in failure of the supplies or services, or to materially reduce the usability of the supplies or services for their intended purpose.

**Output.** The services produced by the Service Provider during the contract performance period.

**Patent Defect.** Any defect that exists at the time of acceptance and is not a latent defect.

**Performance Measure.** A characteristic of a service output that can be quantified and measured, it can be the quantity as well as the quality of the service output.

**Performance Requirement.** A specific contract service output to be performed by the Service Provider as described in the contract.

**Performance Requirements Summary.** A list of contract service outputs, performance criteria, and acceptable quality level.

**Performance Standard.** The measure used to determine the acceptable delivery of a service.

**Performance Work Statement.** A document that describes the essential and technical requirements for Service Provider performed services including the standards used to determine whether the requirements have been met.

**Quality Assurance.** Those actions taken by the government to check Service Provider performed services to determine whether or not they meet the requirements and specifications of the performance work statement.

**Quality Assurance Surveillance.** The monitoring of Service Provider performance to assure that services received are timely and consistent with contract quality requirements.

Quality Assurance Surveillance Plan. Document used for contract quality assurance planning.

**Quality Control.** Those actions taken by the Service Provider to control the output of services so that they meet the requirements and specifications of the performance work statement.

**Random Number Table.** A table of numbers arranged in random fashion used to select a sample.

**Random Sampling.** A sampling method whereby each service output in a lot has an equal chance of being selected in order to estimate the overall quality of the lot against an established standard.

**Sample.** One or more service outputs drawn from a lot.

**Sampling Guide.** A written procedure that describes what will be checked, the standard of performance, the performance indicators, and how the checking will be accomplished through means of random sampling. Formulated by the government utilizing the Service Provider's quality control plan.

**Service.** A job that calls for the Service Provider to expend time and effort to produce an output that the government can use to accomplish its overall mission.

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**Surveillance Activity Checklist.** Any acceptable format chosen by the contracting officer's technical representative to evaluate the performance of the Service Provider. The surveillance activity checklist can be used in conjunction with random sampling or with scheduled surveillance activities.

## Quality Assurance Surveillance Plan National Weather Service Telecommunications Gateway

**1.0 INTRODUCTION.** The contract consists of the performance work statement (PWS), the Service Provider's (SP) Best and Final Offer, amendments, and assorted attachments and technical exhibits. The PWS includes SP submitted reports, forms, and data as a requirement of the contract.

The emphasis of the PWS is on the end product services, not on each detailed step in the work process. It was developed so as not to limit the SP to one way of doing the work requirements. The SP has been given maximum flexibility to manage the work methods selected by the SP.

The Quality Assurance Surveillance (QAS) program will use the SP's Quality Control Plan (QCP) as a basis for its surveillance of the SP's performance. This concept is in keeping with the performance-bases services acquisition policy, and that both the government and the SP are evaluating using the same standards. The QAS program is designed to formalize the government's quality assurance of the SP and to provide official notification to the SP and documentation of that notification when the SP is not performing work required by the contract or is not performing work to standard.

**1.1 PURPOSE.** The purpose of the quality assurance surveillance plan (QASP) is to provide the government with an effective tool to manage contract performance.

#### **1.2 POLICY.** Ensure that—

- Contracts include inspection and other quality requirements, including warranty clauses when appropriate, that are determined necessary to protect the government's interest.
- Services tendered by SPs meet contract requirements.
- Government contract quality assurance is conducted before acceptance (except as otherwise provided for), by or under the direction of government personnel.
- No contract precludes the government from performing inspection.
- Nonconforming services are rejected, except as otherwise provided for.
- Contracts for commercial services shall rely on a SP's existing quality control system as a substitute for compliance with government inspection and testing before tender for acceptance.
- **1.3 OBJECTIVE.** The objective of the QAS program is to assure that the government receives acceptable SP performance while keeping the overall costs of the contract surveillance reasonable. This objective is based on the premise that the SP is responsible for the management and quality control of the contract, the government is responsible for performance assessment, and the SP is responsible for performing functional area processes.
- **1.4 QUALITY ASSURANCE.** Government contract quality assurance shall be performed at such time and places as may be necessary to determine the services conform to contract requirements. Government inspection shall be performed by or under the direction or supervision of government personnel. Inspections shall be documented on inspection report forms.

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- **1.5 NONCONFORMING SERVICES.** Contracting officers (KO) should reject services not conforming in all respects to contract requirements. In those instances where deviation from this policy is found to be in the government's interest, such services may be accepted only as authorized below:
  - SPs should ordinarily be given an opportunity to correct nonconforming services when this can be accomplished within the required delivery schedule. In such cases, correction shall be without additional cost to the government and, the government reserves the right (under the Inspection of Services Clause) to charge the SP the cost of government reinspection and retests because of rejection.
  - When correction cannot be accomplished as set forth above, the KO shall ordinarily reject services when the nonconformance is critical or major. However, there may be circumstances (e.g., reasons of economy or urgency) when acceptance of such services is determined by the KO to be in the government's interest. The KO shall make this determination, based upon—
    - Advice of the technical activity that the material is safe to use, and will perform its intended purpose.
    - > Information regarding the nature and extent of the nonconformance.
    - A request from the SP for acceptance of the services if feasible.
    - A recommendation for acceptance or rejection, with supporting rationale.
    - The contract adjustment considered appropriate, including any adjustments offered by the SP.
  - KOs shall discourage the repeated tender of nonconforming services, including those with only minor nonconformances, by appropriate action, such as rejection and documenting the SP's performance.
  - Each contract under which services with critical or major nonconformances are accepted shall be modified to provide for an equitable price reduction or other consideration.
  - Notices of rejection shall include the reasons for rejection and be furnished promptly to the SP. Promptness in giving this notice is essential because, if timely nature of rejection is not furnished, acceptance may in certain cases be implied as a matter of law. The notice shall be in writing if—
    - The SP persists in offering nonconforming services for acceptance.
    - > Delivery or performance was late without excusable cause.
- **1.6 ACCEPTANCE.** Acceptance constitutes acknowledgement that the services conform with applicable contract quality and quantity requirements. Services shall ordinarily not be accepted before completion of government contract quality assurance actions. Acceptance shall ordinarily be evidenced by execution of an acceptance certificate or an inspection report. Acceptance of services is the responsibility of the KO.

## Quality Assurance Surveillance Plan National Weather Service Telecommunications Gateway

1.7 QUALITY ASSURANCE METHODOLOGY. The SP is the owner of the quality control process and will institute procedures that, if followed, will produce the desired outcomes. The SP is responsible for developing, implementing, and modifying the quality control process to ensure that performance standards are met. The KO will conduct an initial review of the SP's quality control process to ensure its adequacy. Subsequent review of the quality control process will occur if the SP does not meet performance standards.

Assessment of the SP's performance will be based on the performance standards set forth in the PWS and the level of customer satisfaction. The contracting officer's technical representative (COTR) will vary the level of surveillance depending on the SP's conformance to quality levels. The COTR will use statistically valid samples to ensure that the SP's process is accomplishing the desired performance standards of the contract.

The government's intention is to minimize the level of government involvement and allow the SP to responsibly perform to, or exceed, the contract standards. The government's recent experience supports the notion that responsible SPs can produce at acceptable levels of quality without extensive surveillance. If the SP's performance is not satisfactory, and it appears that the SP's quality control process has not produced the desired result, the COTR has the option to increase quality assurance surveillance in order to protect the government's rights.

- **1.8 ASSURANCE OF PERFORMANCE MEASURES.** The COTR will ensure that the SP is following the quality control process described in the SP's proposal by spot-checking services. In performing these activities, the COTR may conclude that recurring problems are indicative of systemic weaknesses in the SP's quality control process. If so, the government will direct the SP to correct the deficiencies in the quality control process.
- **1.9 PERFORMANCE METRICS.** The COTR will periodically examine the SP's forms and data to determine timeliness and quality.
- **1.10 SERVICE PROVIDER'S RECORDS.** The COTR will review the SP's records to ensure that all the reporting requirements of the PWS are being met. The COTR will also spot-check these records for accuracy and completeness. The COTR will further conduct spot checks to confirm that actual performance is consistent with the SP's performance reports.
- **1.11 CUSTOMER SATISFACTION.** The COTR will conduct spot check reviews of customer complaints and will review the SP's resolution of those complaints. The COTR may interview individual customers to determine if the SP satisfactorily reconciled their complaints. Further, the COTR may periodically survey the customer populace to gauge overall customer satisfaction.

It should be recognized that the focus is to shift the quality assurance thinking from individual inspections to determine at the outset if the SP's process, if followed strictly, will produce a deliverable that meets the quality requirements of adhering to the performance requirements. There must be a strict requirement that confidence in the SP's system is based on reasonable assumptions and data, and that the burden is on the SP to demonstrate that procedures are in place that, if followed, will indeed meet the acceptable level of quality.

## Quality Assurance Surveillance Plan National Weather Service Telecommunications Gateway

Regardless of the surveillance method used, the COTR should allow variation in the extent of oversight to match the changes in the quality assurance program. If evidence exists at any time during the period of performance that the SP's process fails to meet this test, or if the SP fails to follow the system in place, the COTR will immediately increase the level of surveillance. As a result, it may be necessary to revert to individual service inspection, prior to acceptance of the SP's work.

**2.0 ROLES AND RESPONSIBILITIES.** Figure 1 contains a matrix of major roles and responsibilities assigned to the KO and the COTR.

| TASKS   | ко | COTR |
|---|----|------|
| Service Contract Authority                                    | X  |      |
| Only Authority Allowed to Direct SP                           | X  |      |
| Approves QASP   | X  |      |
| Reviews QASP to Ensure Cost-Effective And Quality Evaluations |    | X    |
| As Required, Revises the Evaluation Methodology               |    | X    |
| Develops QASP   |    | X    |
| Verifies SP Performance to the KO                             |    | X    |
| Develops Surveillance Schedules                               |    | X    |
| Conducts Evaluations and Records Results                      |    | X    |
| Initiates Reports if SP Services Are Not Acceptable           |    | X    |

Figure 1. Major Roles and Responsibilities

- **2.1 CONTRACTING OFFICER.** The KO is the only authority that can contract for services and enforce the provisions of the contract. KOs are responsible for-
  - Receiving from the activity responsible for technical requirements any specifications for inspection, testing, and other contract quality requirements essential to ensure the integrity of the services (the activity responsible for technical requirements is responsible for prescribing contract quality requirements in a QASP).
  - Including in solicitations and contracts the appropriate requirements for the SP's control of quality for the services to be acquired.
  - Verifying that the SP fulfills the contract quality requirements.
  - Ensuring that nonconformances are identified, and establishing the significance of a nonconformance when considering the acceptability of services that do not meet contract requirements.
  - Develop and apply efficient procedures for performing government contract quality assurance actions under the contract.

## Quality Assurance Surveillance Plan National Weather Service Telecommunications Gateway

- Perform all actions necessary to verify whether the services conform to contract quality requirements.
- Maintain, as part of the performance records of the contract, suitable records reflecting—
  - The nature of government contract quality assurance actions, including, when appropriate, the number of observations made and the number and type of defects.
  - ➤ Decisions regarding the acceptability of the services, the processes, and the requirements, as well as action to correct defects.
- Recommend any changes necessary to the contract, specifications, instructions, or other requirements that will provide more effective operations or eliminate unnecessary costs.
- **2.2 CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE.** Contracting Officer's Technical Representatives are non-contracting personnel assigned to functional areas that have been given additional responsibility for assuring the quality of SP provided services. The authorities and limitations of the COTR are specified in an appointment letter issued by the KO. The COTR is the principal advisor to the KO on quality matters and primarily responsible to evaluate the SP's QCP. Following is a list of COTR responsibilities.
  - Develop the QASP to ensure cost-effective sampling and quality evaluations, and ensure that QASP addresses all contract modifications and changes.
  - Evaluate SP quality control procedures and compliance, identify trends in performance, and perform in-depth studies and/or audits of problem areas.
  - Gather, organize, analyze, evaluate, and provide recommendations to the KO on SP proposed corrective actions.
  - Schedule surveillance evaluations.
  - Review surveillance results and determine appropriate action to be taken.
  - Submit contract discrepancy reports (CDR) to the KO for official transmittal to the SP.
  - Verify to the KO that the SP has performed the technical and management requirements of the contract.
  - As required, revise surveillance evaluation methodology in coordination with the KO.
  - Evaluate and accept, partially accept, or reject SP corrective actions in response to CDRs.
  - Make independent findings about SP performance and submit them to the KO.
  - Take action to identify and eliminate SP deficiencies caused by the government that restricts the SP's ability to perform.
  - Perform quality control procedure reviews and procedure evaluations by reviewing and evaluating SP quality records, inspection results, surveillance plans, summaries,

## Quality Assurance Surveillance Plan National Weather Service Telecommunications Gateway

checklists and schedules to determine adequacy of their quality control program and level of compliance with written quality procedures.

• Maintain records as specified in the appointment letter.

#### 2.3 SERVICE PROVIDER.

- Control the quality of services.
- Tender to the government for acceptance only those services that conform to contract requirements.
- Maintain substantiating evidence, when required by the contract, that the services conform to contract quality requirements, and furnishing such information to the government as required.
- Provide and maintain an inspection system or program for the control of quality that is acceptable to the government. Control of quality may relate to, but is not limited to—
  - > Reliability and maintainability.
  - > Delivery to ensure that only conforming services are tendered to the government.
  - ➤ Procedures and processes for services to ensure that services meet contract requirements.

The SP's quality control program is a key part of the overall quality assurance surveillance program in that quality control is those actions taken by the SP to control the output of services so that they meet the requirements and specifications of the contract.

The SP's quality control program is documented in a SP prepared program that must interface with the functional areas. The SP's QCP feeds the government's QASP, thus the QCP must be prepared, submitted to the government, reviewed, and accepted by the KO prior to the completion of the QASP.

The SP quality control program must be evaluated in a manner similar to the methods used to evaluate service outputs. The COTR will prepare surveillance activity checklists that can be used to check the performance standards stated in the SP's quality control program plan. Following are items that may be periodically checked about the SP quality control program.

- Program is in compliance with the contract.
- Quality program/inspection system well documented.
- Quality program/inspection system adequately planned.
- Organizational elements identified and assigned responsibility.
- SP quality control personnel have the authority, responsibility and freedom to act.
- Work instructions are available, followed, and periodically reviewed.
- Objective evidence is maintained to support quality control findings.
- Means exist for assuring the accuracy, timeliness, and completeness of records.
- SP inspection records are complete.

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- SP has procedures for making improvements and taking corrective action.
- SP sampling plans and checklists are written and followed.

Discrepancies that are noted while observing and evaluating the SP quality control program will be brought to the attention of the SP for corrective action. Discrepancies are documented and submitted to the KO for formal transmittal to the SP through a CDR. The SP shall respond to CDRs in writing with corrective action taken.

#### 3.0 EVALUATING SERVICE PROVIDER PERFORMANCE.

- **3.1 ACTIVITIES.** Three main activities are to be accomplished:
  - (1) Schedule the evaluations;
  - (2) Record the observations; and
  - (3) Request corrective action on noted discrepancies, either formally using CDRs or informally with annotated checklists depending on the nature and seriousness of the discrepancy.
- **3.2 RECORDING OBSERVATIONS.** Service output and quality control procedure observations are to be recorded on surveillance activity checklists locally prepared by the COTR. Once completed, each checklist will become a formal part of the official contract file and must be retained by the COTR.

In cases where SP performance warrants comment, record the comments on the checklist. Never advise the SP of discrepancies that need corrective action without recording the details on a checklist or a CDR as appropriate.

- **3.3 REQUESTING CORRECTIVE ACTION.** If the SP is providing service outputs and performing quality control according to the performance requirements and standards, and the SP's QCP, then corrective action will not be necessary. When service outputs and quality control performance is not satisfactory, then corrective action will be necessary. The following actions are to be taken when corrective action is necessary:
  - Advise the SP of the discrepancy.
  - Note the discrepancy on a surveillance activity checklist and provide a copy of the checklist to the SP.
  - Prepare a CDR and forward it to the KO for action.
  - When the SP responds with the corrective action taken the COTR must evaluate the SP's response and recommend to the KO whether the government should accept, partially accept, or reject the SP's corrective action.
  - Once all necessary corrective actions are complete and accepted by the government, CDRs must be closed by the KO and filed in the official contract file.

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**4.0 SURVEILLANCE METHODOLGY.** Upon KO acceptance of the SP's quality control plan the COTR will develop specific surveillance methodology used by the government for this requirement.

## TECHNICAL EXHIBIT 1

## PERFORMANCE REQUIREMENTS SUMMARY

#### Overview

The performance requirements summary (PRS) lists the performance work statement (PWS) requirements that the Government will surveil. If any of the services performed do not conform to the PWS standards, the Government may require the Service Provider to perform the services again in conformity with service requirements at no additional cost. Other remedial actions are defined in contract clause Inspection of Services. Repeated and chronic unsatisfactory performance by the Service Provider can be grounds for a finding of default on the part of the Service Provider.

#### **Enforceability**

The absence of any PWS requirement from the PRS shall not detract from its enforceability nor limit the rights or remedies of the Government under any other provisions of the contract (should a contractor be selected), including the clauses entitled "Inspection of Services" and "Default."

#### **Discussion**

The PWS shows all of the services and provides standards of performance. The PRS defines the key services and sets forth the maximum allowable deviation from standard performance for these services that may occur before further Government action will be invoked (e.g., a more detailed inspection, directed changes to the quality control plan, or re-performance).

The maximum allowable deviation from standard performance for a service reflects the maximum percent defective that can be considered average. Exceeding this allowable variance from the standard will cause a service to be rejected.

While overall performance may be satisfactory, the Government has the right to receive full value for money paid at least at standards established in the PWS. Furthermore, it does not say the Service Provider may knowingly offer defective service to the Government, but rather implies defective performance sometimes happens unintentionally. As stated previously, the Service Provider must establish a quality control system that ensures services are provided according to required standards.

Lastly, the maximum deviation from standard represents a floor beyond which Service Provider performance shall never go. A single instance of performance below this floor represents failure to perform, regardless whether all other instances are within the threshold.

#### **Government Quality Assurance Methodology**

The Government will inspect the Service Provider to determine if required standards are met. A variety of surveillance methods will be used, including but are not limited to:

- > One hundred percent inspection of outputs
- Random sampling of outputs using statistically based sampling procedures

## **TECHNICAL EXHIBIT 1**

## PERFORMANCE REQUIREMENTS SUMMARY

- > Periodic inspection
- ➤ Validated customer complaints
- Performance Evaluation

Performance will be evaluated to determine whether or not it meets required performance standards. When performance standards are not met the Contracting Officer's Technical Representative (COTR) will issue a contract discrepancy to the Service Provider. The Service Provider shall respond to the contract discrepancy and return the response to the COTR within 15 days of receipt.

#### **Service Provider Payment (Contractor award only)**

For performance of service that meets performance standards, the Service Provider shall invoice the contract amount as appropriate.

## **TECHNICAL EXHIBIT 1**

# PERFORMANCE REQUIREMENTS SUMMARY

#### **PRS Table**

| Required Service                               | Standard<br>Number  | <u>Standard</u>  | Maximum Allowable Degree of<br>Deviation From Requirement |
|--|---|--|---|
| Update and maintain the Trouble Ticket Report. | 5.2 - 1   | Electronic Trouble Ticket Report delivered no later than 7:00AM daily for events that occurred up to 6:30AM.     | 0%  |
| Escalate major events.                         | 5.2 - 2   | Escalate major events to the designated government representative  | 1%  |
|  |   | within two (2) hours of occurrence 99% of the time. Remaining 1% within three (3) hours of the occurrence.       | 0%  |
| Notify customers of scheduled                  | 5.2 - 3   | Notify customers of scheduled events more than two (2) hours before  | 5%  |
| events.  |   | the event 95% of the time. Remaining 5% coordinated at least 30 minutes before the event.                        | 0%  |
| Notify customers at start of                   | Notify customers at start of 5.2 - 4 Notify customers of unscheduled major events not later than 15 |  | 10%   |
| unscheduled major events.                      |   | minutes after start of the event 90% of the time. Remaining 10% within one (1) hour of the event.                | 0%  |
| Notify customers at end of                     | 5.2 - 5   | Notify customers of unscheduled major events within one (1) hour of  | 10%   |
| unscheduled major events.                      |   | end of the event 90% of the time. Remaining 10% within two (2) hours of the status change.                       | 0%  |
| Provide customer with status                   | 5.2 - 6   | Provide outage, test or event status updates within one (1) hour of  |   |
| updates.                                       |   | status change 90% of the time. Remaining 10% within two (2) hours of the status change.                          | 0%  |
| Provide customer with status updates.          | 5.2 - 7   | Provide outage, test or event status updates within three (3) hours 90% of the time when no change has occurred. | 10%   |

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## **TECHNICAL EXHIBIT 1**

| Required Service  | Standard<br>Number   | <u>Standard</u>  | Maximum Allowable Degree of<br>Deviation From Requirement |
|---|--|--|---|
| Notify Senior Duty meteorologist (SDM) and Advanced Weather Interactive System (AWIPS) Network Control Facility (NCF) at start of unscheduled major events. | 5.2 - 8  | Notify SDM and AWIPS NCF of major events within 10 minutes of the event 95% of the time. Remaining 5% within 20 minutes of the event.  | 5%<br>0%  |
| Monitor operational E-mail account for incoming messages.   | 5.2 - 9  | Read any messages in the operational email account(s) within one (1) hour of receipt 90% of the time. Remaining 10% within two (2) hours of receipt.   | 10%<br>0%   |
| Report chargeable complaints.   | 5.2 - 10   | Written complaint assessment delivered to the COTR by close of business the following workday after the complaint was received 90% of the time. Remaining 10% by the close of business on the second workday after the receipt of the complaint. | 10%<br>0%   |
| Major complaints.   | 5.2 - 11   | Major complaints shall not exceed one (1) per month 90% of the time  | 10%   |
| Minor complaints.   | 5.2 - 12   | Minor complaints shall not exceed three (3) per week 95% of the time   | 5%  |
| Diagnose telecommunication errors   | 5.2.1 - 1  | Diagnose and initiate telecommunication corrective action within 15  | 5%  |
| and initiate corrective action.   | initiate corrective action. minutes of error notification 95% of the time. Remaining 5% within one (1) hour of error notification. |  | 0%  |
| Diagnose network errors and initiate  | 5.2.1 - 2  | Diagnose and initiate network failure corrective action within 15  | 5%  |
| corrective action.  |  | minutes of error notification 95% of the time. Remaining 5% within one (1) hour of error notification.   | 0%  |

# **TECHNICAL EXHIBIT 1**

# PERFORMANCE REQUIREMENTS SUMMARY

| Required Service  | Standard<br>Number | <u>Standard</u>   | Maximum Allowable Degree of<br>Deviation From Requirement |
|---|--------------------|---|---|
| Diagnose data errors and initiate corrective action.          | 5.2.1 - 3          | Research, diagnose cause and validity of data problems, and initiate response and corrective action within 15 minutes of error notification 95% of the time. Remaining 5% within one (1) hour of error notification.                      | 5%<br>0%  |
| Correct unknown queue identifier errors.                      | 5.2.1 - 4          | Review 100% of the unknown queue once an hour 98% of the time. Correct at least 20% of product identifier errors in the unknown queue within one (1) hour of receipt 75% of the time. Remaining 25% within two (2) hours of data receipt. | 2%<br>25%<br>0%   |
| Diagnose system errors and initiate recovery steps.           | 5.2.2 - 1          | Diagnose and initiate recovery steps within 15 minutes of any system (to include software, hardware or network) failure indication 95% of the time. Remaining 5% within one (1) hour of failure indication.                               | 5%<br>0%  |
| Open manual trouble tickets.                                  | 5.2.3 - 1          | Manual trouble tickets opened within one (1) hour of error notification. 95% of time. Remaining 5% opened within two (2) hours of error notification  | 5%<br>0%  |
| Close trouble tickets.  | 5.2.3 - 2          | All trouble tickets closed within one (1) hour of site restoration notification 95% of time. Remaining 5% within two (2) hours of restoration notification.   | 5%<br>0%  |
| Diagnose priority 1 and 2 failures and initiate notification. | 5.2.3 - 3          | Diagnose priority 1 and 2 failures and initiate notification within one (1) hour 95% of the time. Remaining 5% within two (2) hours of opening the trouble ticket.  | 5%<br>0%  |
| Clear priority 3 trouble tickets.                             | 5.2.3 - 4          | Diagnose priority 3 failures and initiate corrective action for site within one (1) hour 90% of the time. Remaining 10% within two (2) hours of opening the trouble ticket. Clear 30% of priority 3 trouble tickets in                    | 10%<br>0%   |

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## **TECHNICAL EXHIBIT 1**

# PERFORMANCE REQUIREMENTS SUMMARY

| Required Service   | Standard<br>Number | <u>Standard</u>  | Maximum Allowable Degree of<br>Deviation From Requirement |
|--|--------------------|--|---|
|  |                    | house.   | 70%   |
| Analyze, design, develop and implement changes and upgrades to web page(s).                  | 5.2.3.1- 1         | Web Page operational 98% of time   | 2%  |
| Monitor web page(s) for postings.  | 5.2.3.1-2          | Web page checked every two (2) hours to ensure trouble ticket  | 0%  |
|  |                    | information is posting 100% of time. Diagnose posting failures and initiate corrective action within fifteen (15) minutes of error detection     | 10%   |
|  |                    | 90% of time. Remaining 10% within one (1) hour of error detection.   | 0%  |
| Validate system availability   | 5.2.3.1 - 3        | Validate availability of all internal AOMC systems to include hardware,  | 0%  |
|  |                    | software and applications once per shift 100% of time. Diagnose availability failures and initiate corrective action within fifteen (15)         | 10%   |
|  |                    | minutes of error detection 90% of time. Remaining 10% within one (1) hour of error detection.  | 0%  |
| Validate database availability   | 5.2.3.1 - 4        | Validate availability of the Lotus Notes, Domino and Notrix databases  | 0%  |
|  |                    | once per shift 100% of time. Diagnose availability failures and initiate corrective action within fifteen (15) minutes of error detection 90% of | 10%   |
|  |                    | time. Remaining 10% within one (1) hour of error detection.  | 0%  |
| Perform system administration.   | 5.2.3.1 - 5        | Backup systems available or can be made available whenever the primary system fails 100% of time.  | 0%  |
| Monitor end-to-end data flow on<br>Centralized Automated Data<br>Acquisition System (CADAS). | 5.2.4 - 1          | Check CADAS hourly for product production 96% of the time.   | 4%  |

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## **TECHNICAL EXHIBIT 1**

| Required Service   | Standard<br>Number | <u>Standard</u>  | Maximum Allowable Degree of<br>Deviation From Requirement |
|--|--------------------|--|---|
|  |                    |  |   |
| Diagnose CADAS problems and initiate corrective action.  | 5.2.4 - 2          | Diagnose CADAS errors and initiate corrective action within thirty (30) minutes of error notification 95% of the time. Remaining 5% within two (2) hours of error notification.          | 5%<br>0%  |
| Send STAR4 message.  | 5.2.4 - 3          | STAR4 site outage message not later than 1800 Zulu 95% of the time. Remaining 5% within two (2) hours of 1800 Zulu.  | 5%<br>0%  |
| Monitor end-to-end data flow on the RADAR Multicast System (site monitoring). Diagnose and take corrective action.                                 | 5.2.4 - 4          | Diagnose RADAR Multicast System site outages and take corrective action within 10 minutes of notification 90% of the time. Remaining 10% within 30 minutes of notification.              | 10%<br>0%   |
| Monitor end-to-end data flow on the RADAR Multicast System (receiver monitoring). Diagnose and initiate corrective action.                         | 5.2.4 - 5          | Diagnose RADAR Multicast System failures and initiate corrective action within five (5) minutes of notification 95% of the time. Remaining 5% within 15 minutes of notification.         | 5%<br>0%  |
| Monitor end-to-end data flow on the National Oceanic and Atmospheric Administration (NOAA) Weather Wire System (NWWS). Initiate corrective action. | 5.2.4 - 6          | Initiate NWWS System corrective action to a site not on satellite uplink within 30 minutes of notification 90% of the time. Remaining 10% within one (1) hour of notification.           | 10%<br>0%   |
| Monitor end-to-end data flow on the GMDSS System. Diagnose and take corrective action.   | 5.2.4 - 7          | Diagnose GMDSS System monitor failures and take corrective action within one (1) hour of the monitor failure 90% of the time. Remaining 10% within two (2) hours of the monitor failure. | 10%<br>0%   |

# **TECHNICAL EXHIBIT 1**

| Required Service   | Standard<br>Number | <u>Standard</u>   | Maximum Allowable Degree of<br>Deviation From Requirement |
|--|--------------------|---|---|
| Monitor end-to-end data flow on the GMDSS System. Diagnose and initiate recovery action.   | 5.2.4 - 8          | Diagnose GMDSS data dissemination failures and initiate recovery within 15 minutes of the failure 90% of the time. Remaining 10% within one (1) hour of the failure.  | 10%<br>0%   |
| Monitor facility systems. Monitor facility through alarms, telephone calls and observations. Notify personnel, take system action, evacuate personnel and confirm evacuation. Ensure the operational area is secure. | 5.2.4 - 9          | Initiate action for facilities alarms within five (5) minutes 100% of the time.   | 0%  |
| Diagnose World Area Forecast<br>System (WAFS) broadcast errors<br>and take corrective action.  | 5.2.4 - 10         | Diagnose WAFS broadcast errors and take corrective action within one (1) hour of notification 90% of the time. Remaining 10% within two (2) hours of notification.  | 10%<br>0%   |
| Monitor and ensure RADAR images are posted to regional headquarters servers.   | 5.2.4 - 11         | Diagnose RADAR Image posting outages and take corrective action within 15 minutes of notification 90% of the time. Remaining 10% within one (1) hour of notification.   | 10%<br>0%   |
| Initiate backup of ANBURS.   | 5.2.4 - 12         | Initiate the ANBURS backup system within 10 minutes of notification of service interruption with the FAA Weather Message Switching Center Replacement (WMSCR) system or the AWIPS NCF 95% of the time. Initiate within 20 minutes of notification the remaining 5% of the time. | 5%<br>0%  |
| Operate the contingency back-up site during catastrophic event.  | 5.2.5 - 1          | Backup site fully operational within six (6) hours of a catastrophic event.   | 0%  |

# **TECHNICAL EXHIBIT 1**

| Required Service   | Standard<br>Number | <u>Standard</u>   | Maximum Allowable Degree of<br>Deviation From Requirement |
|--|--------------------|---|---|
| Monitor the contingency back-up site while it is not in operational use. | 5.2.5 - 2          | While backup site is not being used operationally, diagnose and initiate recovery steps within one (1) hour of any system (to include software, hardware or network) failure indication 95% of the time. Remaining 5% within three (3) hours of failure indication. | 5%<br>0%  |
| Assess government technological enhancement proposals.                   | 5.2.6 - 1          | Written assessments to COTR within five (5) workdays of receipt 90% of the time. Remaining 10% within 10 workdays.  | 10%<br>0%   |
| Implement technological or operational enhancements.                     | 5.2.6 - 2          | Government approved technological/operational enhancements implemented within approved assessment milestones.   | 0%  |

# **TECHNICAL EXHIBIT 2**

| Reference | <u>Title</u>                               | <u>Frequency</u> | Suspense                        | <b>Deliver To:</b>                                  |
|-----------|--|------------------|---------------------------------|---|
| 1.2       | Phase-In Plan                              | Once             | 30 Calendar Days After<br>Award | Contracting Officer                                 |
| 1.3.2     | Project Manager and Alternate Designation  | Once             | Phase-In Start Date             | Contracting Officer                                 |
| 5.2       | Number of Connected Calls                  | Monthly          | First Monday                    | Contracting Officer Technical Representative (COTR) |
| 5.2       | Number of "No Connect" Calls               | Monthly          | First Monday                    | COTR  |
| 5.2       | Number of Calls "Disconnected"             | Monthly          | First Monday                    | COTR  |
| 5.2       | Number of Calls flagged as "failed"        | Monthly          | First Monday                    | COTR  |
| 5.2       | Number of Calls "Pickup"                   | Monthly          | First Monday                    | COTR  |
| 5.2       | Number of Calls < 2400 baud                | Monthly          | First Monday                    | COTR  |
| 5.2       | Number of Calls = 2400 baud                | Monthly          | First Monday                    | COTR  |
| 5.2       | Number of Calls > 2400 baud                | Monthly          | First Monday                    | COTR  |
| 5.2       | Trouble Ticket Report                      | Daily            | 7:00 AM EST                     | COTR  |
| 5.2       | Software Status Report                     | Monthly          | First Monday                    | COTR  |
| 5.2.1     | 12 Hour Throughput Circuit Analysis Report | Monthly          | First Monday                    | COTR  |

# **TECHNICAL EXHIBIT 2**

| Reference | <u>Title</u>  | <u>Frequency</u> | <u>Suspense</u> | Deliver To:        |
|-----------|---|------------------|-----------------|--------------------|
| 5.2.3     | Time Check Call Report  | Monthly          | First Monday    | COTR               |
| 5.2.3     | National Weather Service Telecommunication Gateway (NWSTG) - GSC Problem Report | Monthly          | First Monday    | COTR               |
| 5.2.3     | Very Small Aperture Terminal (VSAT) Station Outage<br>Report                    | Monthly          | First Monday    | VSAT Administrator |
| 5.2.3     | Average Number of Trouble Tickets per Site                                      | Monthly          | First Monday    | COTR               |
| 5.2.3     | Number of Trouble Tickets by Priority   | Monthly          | First Monday    | COTR               |
| 5.2.3     | Number of Trouble Tickets by Hour   | Monthly          | First Monday    | COTR               |
| 5.2.3     | Number of Trouble Tickets by Day  | Monthly          | First Monday    | COTR               |
| 5.2.3     | Total Number of Trouble Ticket "Events" by Region                               | Monthly          | First Monday    | COTR               |
| 5.2.3     | Total Number of Trouble Ticket "Categories" by Region                           | Monthly          | First Monday    | COTR               |
| 5.2.3     | Total Number of Trouble Ticket "Categories" by Region/Monthly                   | Monthly          | First Monday    | COTR               |
| 5.2.3     | Number of Trouble Ticket "Categories" by Region/Priority                        | Monthly          | First Monday    | COTR               |
| 5.2.3     | Number of Processed Meteorological Aviation Reports (METAR) by Day              | Monthly          | First Monday    | COTR               |
| 5.2.3     | Number of Processed METARS by Day/Monthly                                       | Monthly          | First Monday    | COTR               |

# **TECHNICAL EXHIBIT 2**

| Reference | <u>Title</u>   | <u>Frequency</u> | Suspense     | Deliver To: |
|-----------|--|------------------|--------------|-------------|
| 5.2.3     | Number of Processed METARS by Hour                                     | Monthly          | First Monday | COTR        |
| 5.2.3     | Number of Calls by Day and workstation                                 | Monthly          | First Monday | COTR        |
| 5.2.3     | Number of Calls by Hour  | Monthly          | First Monday | COTR        |
| 5.2.3     | Number of Hot Line Calls by Day of the Week                            | Monthly          | First Monday | COTR        |
| 5.2.3     | Number of Missed Observation by Agency                                 | Monthly          | First Monday | COTR        |
| 5.2.3     | Percentage of Missed METARS - Federal Aviation<br>Administration (FAA) | Monthly          | First Monday | COTR        |
| 5.2.3     | Percentage of Missed METARS - National Weather<br>Service (NWS)        | Monthly          | First Monday | COTR        |
| 5.2.3     | Percentage of Missed METARS by Center (30-day)                         | Monthly          | First Monday | COTR        |
| 5.2.3     | Number of Return To Service (RTS) Reports and Events by Day            | Monthly          | First Monday | COTR        |
| 5.2.3     | Return to Service (RTS) Events versus RTS Reports by Region            | Monthly          | First Monday | COTR        |
| 5.2.3     | RTS Events versus RTS Reports by Day                                   | Monthly          | First Monday | COTR        |
| 5.2.3     | Number of Exceeded RTS Reports by Day                                  | Monthly          | First Monday | COTR        |
| 5.2.3     | Number of Exceeded RTS Reports by Service Level                        | Monthly          | First Monday | COTR        |

# **TECHNICAL EXHIBIT 2**

| <u>Reference</u> | <u>Title</u>  | <u>Frequency</u>                   | <u>Suspense</u>                                      | Deliver To: |
|------------------|---|------------------------------------|--|-------------|
| 5.2.3            | Number of Exceeded RTS Reports by Service Level                                       | Monthly                            | First Monday   | COTR        |
| 5.2.3            | Number of Exceeded RTS Reports by Priority  | Monthly                            | First Monday   | COTR        |
| 5.2.3            | Number of Exceeded RTS Reports by NWS Region  | Monthly                            | First Monday   | COTR        |
| 5.2.3            | Automated Surface Observing System (ASOS) Listing of<br>All Remote Access Phone Lines | Monthly                            | First Monday   | COTR        |
| 5.2.3            | ASOS Configuration Control Board Performance Report                                   | Quarterly                          | First Monday   | COTR        |
| 5.2.3            | Next Generation Runway Visual Range Operational Status                                | As required (No more than Monthly) | Within five (5)<br>workdays of receipt of<br>request | COTR        |
| 5.2.4            | World Area Forecast System Report   | Daily                              | 7:00 AM EST  | COTR        |
| 5.2.6            | Technological Enhancement Assessment  | As Required                        | Within five (5)<br>workdays of receipt of<br>request | COTR        |

## **TECHNICAL EXHIBIT 3**

# GOVERNMENT FURNISHED EQUIPMENT, HARDWARE, SOFTWARE, NETWORKS AND CIRCUITS

Note: Data contained within this exhibit is current as of the solicitation date. Hardware, software, networks and circuits change regularly based on customer needs.

#### Hardware:

A. Processors, Peripherals, and DASD

| <u>Brand</u>                          | Quantity |
|---------------------------------------|----------|
| IBM 9672                              | 3        |
| Hardware Management Consoles          | 3        |
| IBM RS6000 servers                    | 52       |
| IBM 3174 console controller           | 4        |
| 3270 Consoles                         | 17       |
| IBM 3290 2-4 Panel Consoles           | 4        |
| IBM 4245 Printer                      | 1        |
| Hewlett Packard (HP) LaserJet Printer | 2        |
| Storage Tek 4480 Tape Drive           | 1        |
| CD 9000 ESCON Switch                  | 1        |
| Data Switch 1800 Channel Switch       | 1        |
| IBM 9394 Disk Controllers             | 4        |
| Shiva LANrover                        | 2        |
| AIX RAID                              | 8        |
| ChronoLog Digital Clock/Timer         | 2        |
| Dell Servers                          | 7        |
| AOMC Workstations                     | 12       |
| Load Balancer/Local Director          | 2        |

## **TECHNICAL EXHIBIT 3**

# GOVERNMENT FURNISHED EQUIPMENT, HARDWARE, SOFTWARE, NETWORKS AND CIRCUITS

#### B. Communication Processors, Switches and Hubs

| <u>Brand</u>                          | <b>Quantity</b> |
|---------------------------------------|-----------------|
| Concurrent Computer Corp. FEP         | 7               |
| - Consoles                            | 7               |
| AMDAHL Front End Processor (FEP)      | 2               |
| - Consoles                            | 2               |
| Bolt Beranek and Newman Packet Switch | 4               |
| CISCO PIX firewall                    | 8               |
| CISCO router                          | 8               |
| CISCO FDDI concentrator               | 4               |
| GCOM Server                           | 2               |
| DataSwitch Universe Matrix Switch     | 1               |
| Satellite Cabinets                    | 6               |
| SUN Workstation1                      | 1               |
| Paragon KVM Switch                    | 2               |
| HUBS                                  | 12              |
| Switches                              | 9               |
| Fiber Multiplexer (MUX)               | 1               |
| LightSpan MUX                         | 1               |

## C. Communication/Data Termination Equipment

| <u>Brand</u> | <u>Quantity</u> |
|--------------|-----------------|
| LARSCOM      | 5               |
| Verilink     | 5               |

## **TECHNICAL EXHIBIT 3**

# GOVERNMENT FURNISHED EQUIPMENT, HARDWARE, SOFTWARE, NETWORKS AND CIRCUITS

| <u>Brand</u>           | <u>Quantity</u> |
|------------------------|-----------------|
| Paradyne               | 15              |
| ADTRAN                 | 12              |
| Kentrox                | 2               |
| CODEX                  | 25              |
| Datatel                | 1               |
| Memotec                | 5               |
| Fore Systems           | 1               |
| Multitech              | 2               |
| Racal                  | 2               |
| US Robotics            | 1               |
| Lucent                 | 2               |
| Universal Data Systems | 12              |
| Telco Systems          | 10              |
| General Datacom        | 4               |
| MICRON                 | 1               |
| AT&T Dataphone         | 1               |

#### D. Communication Monitoring Tools

| <u>Brand</u>                             | Quantity |
|--|----------|
| NetView Clients                          | 4        |
| Digitech WAN 9000                        | 3        |
| Simon 5 Line Monitor                     | 1        |
| Data Communication Test Instrument (DTI) | 2        |

## **TECHNICAL EXHIBIT 3**

# GOVERNMENT FURNISHED EQUIPMENT, HARDWARE, SOFTWARE, NETWORKS AND CIRCUITS

| <u>Brand</u>        | <b>Quantity</b> |
|---------------------|-----------------|
| Digitech 500        | 2               |
| Firebird 500        | 2               |
| WebPage Displays    | 8               |
| Switchable Consoles | 3               |
| CCC monitors        | 2               |

#### E. Processors

| Special System   | <u>Brand</u>      | <u>Quantity</u> |
|--|-------------------|-----------------|
| EMWIN/IWINs  | Personal Computer | 15              |
| National Data Buoy Center (NDBC)   | IBM RS6000        | 2               |
| Hydrologicial Prediction Center (HADS)   | Hewlett Packard   | 3               |
| Centralized Automated Data Acquisition<br>System (CADAS)                       | Dell 2550 Server  | 2               |
| - CADAS Modems   | TBD               | 64              |
| - MUX  | Cyclades          | 8               |
| National Center of Environmental<br>Prediction (NCEP) Communication<br>Servers | Personal Computer | 2               |
| NCEP Backup Servers  | IBM RS6000        | 2               |
| Marta Fax  | Personal Computer | 2               |
| NWSSpot  | IBM RS6000        | 2               |
| Global Maritime Distress and Safety<br>System (GMDSS)                          | Personal Computer | 2               |
| National Oceanic and Atmospheric<br>Administration (NOAA) Weather Wire         | Personal Computer | 3               |

## **TECHNICAL EXHIBIT 3**

| Special System  | <u>Brand</u>      | <u>Quantity</u> |  |  |
|---|-------------------|-----------------|--|--|
| Service (NWWS)  |                   |                 |  |  |
| Alphanumeric Backup Replacement<br>System (ANBURS)                        | Personal Computer | 1               |  |  |
| Radar Multicast Server  | IBM RS6000        | 2               |  |  |
| SiteScan  | Personal Computer | 1               |  |  |
| ADAS Backup System (ABACUS)   | Personal Computer | 1               |  |  |
| World Area Forecast System (WAFS)   | Personal Computer | 2               |  |  |
| Advanced Weather Interactive Processing<br>System (AWIPS) D2D Workstation | Hewlett Packard   | 1               |  |  |
| AOMC Background System  | Personal Computer | 2               |  |  |
| AOMC One Time Download (OTD)  | Personal Computer | 1               |  |  |

## **TECHNICAL EXHIBIT 3**

# GOVERNMENT FURNISHED EQUIPMENT, HARDWARE, SOFTWARE, NETWORKS AND CIRCUITS

#### F. Servers

| System Name          | Console | <b>Backup</b>   | <b>Function</b>  | <u>Туре</u> | Model | <u>Type</u> | Serial No. | O/S<br>Level | System Name |
|----------------------|---------|-----------------|--|-------------|-------|-------------|------------|--------------|-------------|
| ftpgate.nws.noaa.gov |         |                 | Cluster Address  |             |       |             |            |              | tgftp       |
| gsftpa               | O Low   | internal        | File Transfer Protocol (FTP) Statistics Server   | Netfinity   | 5500  | 8660-11U    | 23A9939    | -            | gsftpa      |
| gssla                | O Low   | internal        | HTTP Statistics Server   | Netfinity   | 5500  | 8660-11U    | 23A5748    | -            | gssla       |
| ncfl                 | KVM     | A-tgsv1         | Network Control Facility<br>(NCF) High Speed Interface<br>- Primary  | RS/6000     | 43P   | 7043-140    | 10-35271   | 4.3.2        | ncf1        |
| ncf2                 | KVM     | B-tgsv1         | NCF High Speed Interface - Secondary   | RS/6000     | 43P   | 7043-140    | 10-35272   | 4.3.3        | ncf2        |
| netview              | J Low   | B-external tape | Netview Server / Display   | RS/6000     | 43P   | 7043-140    | 10-91426   | 4.3.2        | netview     |
| nidserva             | KVM     | A-shared tape   | Next Generation Weather<br>Radar (NEXRAD)<br>Information Dissemination<br>Service (NIDS) Radar<br>Multicast Server - Primary | RS/6000     | F50   | 7025-F50    | 10-36913   | 4.3.3        | nidserva    |
| nidservb             | KVM     | B-shared tape   | NIDS Radar Multicast<br>Server - Standby   | RS/6000     | F50   | 7025-F50    | 10-36912   | 4.3.3        | nidservb    |
| nidsrcva             | KVM     | A-tgsv11        | NIDS Radar Ingest  | RS/6000     | B50   | 7046-B50    | 10-B804D   | 4.3.3        | nidsrcva    |

## **TECHNICAL EXHIBIT 3**

| System Name           | Console | <b>Backup</b> | <b>Function</b>   | Туре    | Model | <u>Type</u> | Serial No. | O/S<br>Level | System Name |
|-----------------------|---------|---------------|---|---------|-------|-------------|------------|--------------|-------------|
| nidsrcvb              | KVM     | B-tgsv11      | NIDS Radar Ingest   | RS/6000 | B50   | 7046-B50    | 10-C873D   | 4.3.3        | nidsrcvb    |
| pftpgate.nws.noaa.gov |         |               | Cluster Address   |         |       |             |            |              | tgftp       |
| ptgftp.nws.noaa.gov   |         |               | Cluster Address   |         |       |             |            |              | ptgftp      |
| telgate.nws.noaa.gov  |         |               | Cluster Address   |         |       |             |            |              | telgate     |
| tgftp.nws.noaa.gov    |         |               | Cluster Address   |         |       |             |            |              | tgftp       |
| tgsv01                | KVM     | A-internal    | FTP Server - Interim  | RS/6000 | F50   | 7025-F50    | 10-20808   | 4.3.2        | tgsv01      |
| tgsv02                | KVM     | A-internal    | Sybase Server   | RS/6000 | F50   | 7025-F50    | 10-26753   | 4.3.2        | tgsv02      |
| tgsv03                | KVM     | B-internal    | Sybase Server   | RS/6000 | F50   | 7025-F50    | 10-26754   | 4.3.2        | tgsv03      |
| tgsv04                | KVM     | B-internal    | Sybase Server   | RS/6000 | 6H1   |             |            |              | tgsv04      |
| tgsv05                | KVM     | B-internal    | HTTP Server - www.nws.noaa.gov  | RS/6000 | F50   | 7025-F50    | 10-15217   | 4.3.2        | tgsv05      |
| tgsv06                | N High  | A-tgsv16      | HTTP Server - Intranet  | RS/6000 | 570   | 7013-570    | 26-50326   | 4.3.2        | tgsv06      |
| tgsv07                | KVM     | B-tgsv16      | Radar LDM Server  | RS/6000 | 43P   | 7043-140    | 10-06318   | 4.3.3        | tgsv07      |
| tgsv08                | KVM     | A-internal    | Web Preprocessor  | RS/6000 | F50   | 7025-F50    | 10-ADFAD   | 4.3.2        | tgsv08      |
| tgsv10                | KVM     | A-internal    | National Center for<br>Environmental Prediction<br>(NCEP) DBNet, ptgftp<br>cluster backup | RS/6000 |       | 7025-F50    | 10-19082   | 4.3.3        | tgsv10      |
| tgsv11                | KVM     | B-internal    | NCEP DBNet, ptgftp cluster backup   | RS/6000 | F50   | 7025-F50    | 10-18443   | 4.3.3        | tgsv11      |
| tgsv12                | H Low   | B-tgsvdns1    | LDM Receiver  | RS/6000 | J30   | 7013-J30    | 26-45848   | 4.3.2        | tgsv12      |

## **TECHNICAL EXHIBIT 3**

| System Name | Console | <u>Backup</u>   | <b>Function</b>                        | <u>Type</u> | Model | <u>Туре</u> | Serial No. | O/S<br>Level | System Name |
|-------------|---------|-----------------|--|-------------|-------|-------------|------------|--------------|-------------|
| tgsv13      | H Low   | A-tgsvdns1      | telgate cluster member                 | RS/6000     | J30   | 7013-J30    | 26-45921   | 4.3.3        | tgsv13      |
| tgsv14      | KVM     | A-tgsv21        | Public Network Dispatcher - Primary    | RS/6000     | 43P   | 7043-140    | 10-52593   | 4.3.3        | tgsv14      |
| tgsv15      | KVM     | B-tgsv21        | Public Network Dispatcher - Backup     | RS/6000     | 43P   | 7043-140    | 10-52303   | 4.3.3        | tgsv15      |
| tgsv16      | D High  | B-external tape | Test and Development                   | RS/6000     | 590   | 7013-590    | 26-55573   | 4.3.2        | tgsv16      |
| tgsv17      | KVM     | A-tgsv11        | Private Network Dispatcher-<br>Primary | RS/6000     | 43P   | 7043-140    | 10-91427   | 4.3.2        | tgsv17      |
| tgsv18      | KVM     | B-tgsv11        | Private Network Dispatcher-<br>Backup  | RS/6000     | 43P   | 7043-140    | 10-91425   | 4.3.2        | tgsv18      |
| tgsv19      | KVM     | A-internal      | Application Server                     | RS/6000     | F50   | 7025-F50    | 10-42221   | 4.3.2        | tgsv19      |
| tgsv21      | KVM     | A-internal      | HTTP/FTP Server, weather.noaa.gov      | RS/6000     | F50   | 7025-F50    | 10-20807   | 4.3.3        | tgsv21      |
| tgsv22      | KVM     | B-internal      | HTTP/FTP Server, weather.noaa.gov      | RS/6000     | F50   | 7025-F50    | 10-18437   | 4.3.3        | tgsv22      |
| tgsv23      | KVM     | A-internal      | HTTP/FTP Server, weather.noaa.gov      | RS/6000     | F50   | 7025-F50    | 10-25215   | 4.3.3        | tgsv23      |
| tgsv24      | KVM     | A-internal      | HTTP/FTP Server,<br>weather.noaa.gov   | RS/6000     | F50   | 7025-F50    | 10-46848   | 4.3.3        | tgsv24      |
| tgsv25      | KVM     | B-internal      | HTTP/FTP Server,                       | RS/6000     | F50   | 7025-F50    | 10-26754   | 4.3.3        | tgsv25      |

## **TECHNICAL EXHIBIT 3**

| System Name | Console | <u>Backup</u>   | <u>Function</u>                        | <u>Type</u> | Model | <u>Type</u> | Serial No. | O/S<br>Level | System Name |
|-------------|---------|-----------------|--|-------------|-------|-------------|------------|--------------|-------------|
|             |         |                 | weather.noaa.gov                       |             |       |             |            |              |             |
| tgsv30      | KVM     | A-internal      | Radar Image Generator -<br>Primary     | RS/6000     | H80   | 7026-H80    | 10-FB4AD   | 4.3.3        | tgsv30      |
| tgsv31      | KVM     | B-tgsv30        | Radar Image Generator -<br>Standby     | RS/6000     | H80   | 7026-H80    | 10-FB4BD   | 4.3.3        | tgsv31      |
| tgsv32      | KVM     | B-internal      | Conduit-2 LDM Server                   | RS/6000     | M80   | 7026-M80    | 10-5830F   | 4.3.3        | tgsv32      |
| tgsv35      | KVM     | A-tgsvdns1      | HTTP / FTP Server,<br>www.nws.noaa.gov | RS/6000     | B50   | 7046-B50    | 10-DA3AD   | 4.3.3        | tgsv35      |
| tgsv36      | KVM     | B-tgsvdns1      | HTTP / FTP Server,<br>www.nws.noaa.gov | RS/6000     | B50   | 7046-B50    | 10-DA40D   | 4.3.3        | tgsv36      |
| tgsv37      | KVM     | A-tgsvdns1      | HTTP / FTP Server,<br>www.nws.noaa.gov | RS/6000     | B50   | 7046-B50    | 10-DA3FD   | 4.3.3        | tgsv37      |
| tgsv38      | KVM     | A-tgsv21        | Public FTP / LDM Gateway               | RS/6000     | B50   | 7046-B50    | 10-DC160   | 4.3.3        | tgsv38      |
| tgsv39      | KVM     | B-tgsv21        | Public FTP / LDM Gateway               | RS/6000     | B50   | 7046-B50    | 10-DC150   | 4.3.3        | tgsv39      |
| tgsv40      | KVM     | A-switched tape | Private FTP Gateway                    | RS/6000     | B50   | 7046-B50    | 10-B803D   | 4.3.3        | tgsv40      |
| tgsv41      | KVM     | B-swtiched tape | Private FTP Gateway                    | RS/6000     | B50   | 7046-B50    | 10-C872D   | 4.3.3        | tgsv41      |
| tgsv42      | KVM     | A-              | ptgftp cluster member                  | RS/6000     | B50   | 7046-B50    | 10-1592F   | 4.3.3        | tgsv42      |
| tgsv43      | KVM     | В-              | ptgftp cluster member                  | RS/6000     |       | 7046-B50    | 10-1591F   | 4.3.3        | tgsv43      |
| tgsv44      | KVM     | A-switched      | LDM receiver - Primary                 | RS/6000     | B50   |             |            | 4.3.3        | tgsv44      |

## **TECHNICAL EXHIBIT 3**

| System Name | Console | Backup          | <u>Function</u>                       | <u>Type</u> | Model | <u>Type</u> | Serial No. | O/S<br>Level | System Name |
|-------------|---------|-----------------|---------------------------------------|-------------|-------|-------------|------------|--------------|-------------|
|             |         | tape            |                                       |             |       |             |            |              |             |
| tgsv45      | KVM     | B-switched tape | LDM receiver - Secondary              | RS/6000     | B50   |             |            | 4.3.3        | tgsv45      |
| tgsv46      | KVM     |                 | SPOT - HTTP Server                    | RS/6000     | 6C1   |             |            | 4.3.3        | tgsv46      |
| tgsv47      | KVM     |                 | SPOT - HTTP Server                    | RS/6000     | 6C1   |             |            | 4.3.3        | tgsv47      |
| tgsv48      | KVM     |                 | telgate/tgweb                         | RS/6000     | B50   |             |            | 4.3.3        | tgsv48      |
| tgsv49      | KVM     |                 | telgate/tgweb                         | RS/6000     | B50   |             |            | 4.3.3        | tgsv49      |
| tgsv50      | KVM     |                 | Radar LDM Server                      | RS/6000     | H50   |             |            | 4.3.3        | tgsv50      |
| tgsv51      | KVM     |                 | Radar LDM Server                      | RS/6000     | H50   |             |            | 4.3.3        | tgsv51      |
| tgsvafs1    | KVM     | B-internal      | Andrews File System (AFS) File Server | RS/6000     | H50   | 7026-H50    | 10-02886   | 4.3.2        | tgsvafs1    |
| tgsvafs2    | KVM     | A-internal      | AFS File Server                       | RS/6000     | H50   | 7026-H50    | 10-02885   | 4.3.2        | tgsvafs2    |
| tgsvafs3    | KVM     | B-tgsvafs4      | AFS File Server                       | RS/6000     | H70   | 7026-H70    | 10-1365F   | 4.3.3        | tgsvafs3    |
| tgsvafs4    | KVM     | A-internal      | AFS File Server                       | RS/6000     | H70   | 7026-H70    | 10-11B8F   | 4.3.3        | tgsvafs4    |
| tgsvtsm1    |         |                 | Tape Backup Server                    | RS/6000     | H50   |             |            | 4.3.3        | tgsvtsm1    |
| tgsvdns 1   | KVM     | A-external tape | Name Server                           | RS/6000     | E30   | 7024-E30    | 26-04396   | 4.3.3        | tgsvdns1    |
| tgsvdns2    | KVM     | B-tgsvdns1      | Name Server                           | RS/6000     | E30   | 7024-E30    | 26-04398   | 4.3.3        | tgsvdns2    |
| tgsvnt1     | B High  | 1.2             | NT User Station                       | IBM PC      | 300   |             |            | NT<br>4.0    | tgsvnt1     |
| tgsvnt2     | B High  | 1.1             | NT User Station                       | IBM PC      | 300   |             |            | NT           | tgsvnt1     |

## **TECHNICAL EXHIBIT 3**

| System Name      | Console | <b>Backup</b> | <b>Function</b>         | <u>Type</u> | Model | <u>Type</u> | Serial No. | <u>O/S</u> | System Name      |
|------------------|---------|---------------|-------------------------|-------------|-------|-------------|------------|------------|------------------|
|                  |         |               |                         |             |       |             |            | Level      |                  |
|                  |         |               |                         |             |       |             |            | 4.0        |                  |
| tgsvpr1          |         |               | HP 8000N Printer        | HP          |       |             |            |            | tgsvpr1          |
| weather.noaa.gov |         |               | Cluster Address         |             |       |             |            |            | weather.noaa.gov |
| www.nws.noaa.gov |         |               | Cluster Address         |             |       |             |            |            | www.nws.noaa.gov |
| xlator           |         | internal      | HTTP Translation Server | Netfinity   | 5500  | 8660-11U    | 23A9174    | NT         | xlator           |
|                  |         |               |                         |             |       |             |            | 4.0        |                  |

## **TECHNICAL EXHIBIT 3**

# GOVERNMENT FURNISHED EQUIPMENT, HARDWARE, SOFTWARE, NETWORKS AND CIRCUITS

#### Software:

A. Operational Virtual Machines (running on IBM 9672)

AOMC3 Build ASOS station report files

CBAT Application virtual machine that manipulates data and builds bulletins

CLSRV Transfer data from IBM 9672 to SYBASE system CLSRV2 Transfer data from IBM 9672 to SYBASE system

CMON Application virtual machine that manipulates data and builds bulletins
DRAT4 Application virtual machine that manipulates data and builds bulletins

FTPGRIB Builds files containing specific data

FTPNCEP1 Performs FTP "pull" to get data from external customers FTPNCEP2 Performs FTP "pull" to get data from external customers

FTPPROC Breaks files "pulled" from NCEP into bulletins FTPPROC1 Breaks files "pulled" from NCEP into bulletins

FTPRCV Performs FTP "pull" to get data from external customers and converts files to

bulletins

FTPSEND Sends files to predetermined destinations
FTPSEND1 Sends files to predetermined destinations
FTPSEND2 Sends files to predetermined destinations
FTPSERVE System virtual machine to support TCP/IP

FTPSTAT Performs FTP "pull" to get data from external customers FTPSTAT1 Performs FTP "pull" to get data from external customers

FTPTXT Builds files containing specific data FTPTXT2 Builds files containing specific data

GCS System virtual machine to support data movement within the IBM 9672

MAGIC Application virtual machine that looks up headers in the Switching Directory

MDAD Application virtual machine the builds the master system data queue

ODBVM Breaks bulletins into observations for data basing.

## **TECHNICAL EXHIBIT 3**

# GOVERNMENT FURNISHED EQUIPMENT, HARDWARE, SOFTWARE, NETWORKS AND CIRCUITS

| ODBVM2   | Breaks bulletins into observations for data basing.                               |
|----------|---|
| RSOCKET  | Application virtual machine that ingests data from TCP/IP sockets                 |
| RSOCKET2 | Application virtual machine that ingests data from TCP/IP sockets                 |
| RTMESA   | System virtual machine to perform system performance monitoring                   |
| SATA     | Application virtual machine that manipulates data and builds bulletins            |
| SYSMON   | Virtual machine that monitors key operational processes and give current display  |
| TCPIP    | System virtual machine to support TCP/IP  |
| TSOCKET  | Application virtual machine that supplies data for TCP/IP sockets                 |
| TSOCKET2 | Application virtual machine that supplies data for TCP/IP sockets                 |
| VEQR     | Key virtual machine used for data pointer checkpointing and queueing applications |
| VMOP1    | Proprietary software to supply application logs                                   |
| VMOP2    | Proprietary software to supply application logs                                   |
| VMOP3    | Proprietary software to supply application logs                                   |
| VMOP4    | Proprietary software to supply application logs                                   |
| VMOP5    | Proprietary software to supply application logs                                   |
| VMOP6    | Proprietary software to supply application logs                                   |
| VMOP7    | Proprietary software to supply application logs                                   |
| VMOP8    | Proprietary software to supply application logs                                   |
| VMOP9    | Proprietary software to supply application logs                                   |
| VMOP10   | Proprietary software to supply application logs                                   |
| VSESA1   | System virtual machine to support miscellaneous applications                      |
| VSESA3   | System virtual machine to support miscellaneous applications                      |
| VTAM     | System virtual machine to support communications with external devices            |
| XVTDOM   | VTAM application virtual machine to drive X.25 lines in the AMDAHL                |
| XVTGCS   | VTAM application virtual machine to drive X.25 lines in the AMDAHL                |
| XVTGTS   | VTAM application virtual machine to drive X.25 lines in the AMDAHL                |
| XVTISP   | VTAM application virtual machine to drive X.25 lines in the AMDAHL                |
|          |   |

## **TECHNICAL EXHIBIT 3**

# GOVERNMENT FURNISHED EQUIPMENT, HARDWARE, SOFTWARE, NETWORKS AND CIRCUITS

XVTWS1 VTAM application virtual machine to drive X.25 lines in the AMDAHL XVTWS2 VTAM application virtual machine to drive X.25 lines in the AMDAHL

#### B. Standard Operational Software

VM/ESA

VSE/ESA

**VTAM** 

**WINDOWS** 

AIX

**IBM AIX** 

LOTUS NOTES

**LOTUS DOMINO** 

LINUX

Notrix Data Base

Notrix

#### Circuits:

#### A. External Circuits

| Customer (Line Number)   | <u>Speed</u>   | <u>Protocol</u>  |
|--------------------------|----------------|------------------|
| Office of Hydrology (7)  | 2.4Kbps        | Asynchronous     |
| Haiti (8)                | 75Baud         | Asynchronous     |
| Ship (16)                | Dial (300bps)  | Asynchronous     |
| Ship (17)                | Dial (1200bps) | Asynchronous     |
| Ship (30)                | Dial (4800bps) | Asynchronous     |
| Tokyo (38/39/40/118/119) | 64Kbps         | TCP/IP (Sockets) |
| WAFS (42/183-187)        | 56Kbps         | X.25 (6 PVCs)    |

## **TECHNICAL EXHIBIT 3**

# GOVERNMENT FURNISHED EQUIPMENT, HARDWARE, SOFTWARE, NETWORKS AND CIRCUITS

| Customer (Line Number)                             | <u>Speed</u> | <u>Protocol</u>      |
|--|--------------|----------------------|
| WAFS Alternate                                     | T1           | X.25 (6 PVCs)        |
| Federal Aviation Administration (FAA) Leesburg MUX | 56Kbps       | Codex MUX            |
| WMSCR (110)  | 19.2Kbps     | X.25 (SVC)           |
| Micronesia (48)                                    | 14.4Kbps     | X.25 (up to 11 SVCs) |
| ARINC (123)  | 9.6Kbps      | X.25 (SVC)           |
| VIASALA (50)                                       | 19.2Kbps     | X.25 (2 PVCs)        |
| Honolulu MUX                                       | 19.2Kbps     | MUX                  |
| Honolulu (125)                                     | 4.8Kbps      | X.25 (SVC)           |
| Nandi/Fiji (9)                                     | 75Baud       | Asynchronous         |
| Tsunami Center (58)                                | 300bps       | Asynchronous         |
| SPC (59/160/161)                                   | 64Kbps       | X.25 (3 PVCs)        |
| TPC (60/162/166)                                   | 64Kbps       | X.25 (3 PVCs)        |
| AWC (67/164/165)                                   | 128Kbps      | X.25 (3 PVCs)        |
| Public Products Service (62)                       | 9.6Kbps      | Asynchronous         |
| Domestic Data Service (73)                         | 9.6Kbps      | Asynchronous         |
| International Data Svc (71)                        | 9.6Kbps      | Asynchronous         |
| Office of Naval Intelligence (97)                  | 1.2Kbps      | Asynchronous         |
| Wallops Island (77)                                | 9.6Kbps      | X.25 (SVC)           |
| Dial Receive (96)                                  | 1200bps      | Asynchronous         |
| Dial Receive (99)                                  | 2400bps      | Asynchronous         |
| NADIN FAA (102)                                    | 2.4Kbps      | ADCCP                |
| Canada   | 64Kbps       | TCP/IP               |

## **TECHNICAL EXHIBIT 3**

# GOVERNMENT FURNISHED EQUIPMENT, HARDWARE, SOFTWARE, NETWORKS AND CIRCUITS

| <u>Customer (Line Number)</u>                | <u>Speed</u>          | <u>Protocol</u>                            |
|--|-----------------------|--|
| WMO (130/131/103)                            | 64Kbps                | X.25 (2 PVC, Tunnel)                       |
| Bracknell                                    | 64Kbps                | TCP/IP                                     |
| WMO (120/121/114)                            | 64Kbps                | X.25 (2 PVC, Tunnel)                       |
| AFWA   | DATMS-U Network Speed | TCP/IP Socket                              |
| Saudi Arabia                                 | 64Kbps                | TCP/IP                                     |
| WMO (115/163)                                | 64Kbps                | X.25 (2 PVC, Tunnel)                       |
| Pretoria                                     | 64Kbps                | TCP/IP                                     |
| WMO (66)                                     | 64Kbps                | X.25 (PVC, Tunnel)                         |
| NDBC   | 9.6Kbps               | X.25 (SVC)                                 |
| Brazil                                       | 64Kbps                | X.25 (2 PVC)                               |
| Argentina                                    | 64Kbps                | X.25 (2 PVC)                               |
| Air Resources Lab                            | 19.2Kbps              | X.25 (PVC)                                 |
| Alaska                                       | 19.2Kbps              | X.25 (2 PVC, Tunnel on Alaska<br>Regional) |
| Weather Information Message<br>System (WIMS) | 9.6Kbps               | X.25 (SVC)                                 |

## B. External Circuits

| Customer (Line Number)  | <u>Speed</u> | <u>Protocol</u> |
|-------------------------|--------------|-----------------|
| NCF/BBN (51/179-182)    | 64Kbps       | X.25 (6 PVCs)   |
| NCF/BBN (55/178)        | 256Kbps      | X.25 (2 PVCs)   |
| BBN/AMDAHL (51/179-182) | 64Kbps       | X.25 (5 PVCs)   |
| BBN/AMDAHL (55/178)     | 256Kbps      | X.25 (2 PVCs)   |
| CCC1/CCC3 (10)          | 19.2Kbps     | X.25 (PVC)      |

## **TECHNICAL EXHIBIT 3**

# GOVERNMENT FURNISHED EQUIPMENT, HARDWARE, SOFTWARE, NETWORKS AND CIRCUITS

| <u>Customer (Line Number)</u> | <u>Speed</u> | <u>Protocol</u> |
|-------------------------------|--------------|-----------------|
| AMDAHL/CCC4 (122)             | 64Kbps       | X.25 (PVC)      |
| AMDAHL/CCC3 (48)              | 19.2Kbps     | X.25 (PVC)      |
| AMDAHL/CCC3 (127)             | 19.2Kbps     | X.25 (PVC)      |
| CCC3/NDBC1                    | 19.2Kbps     | X.25 (2 SVCs)   |
| CCC3/NDBC2                    | 19.2Kbps     | X.25 (2 SVCs)   |
| AMDAHL/NCEP1 (88)             | 64Kbps       | X.25 (PVC)      |
| AMDAHL/NCEP2 (167)            | 64Kbps       | X.25 (PVC)      |
| CCC1/GMDSS Server (14)        | 9.6Kbps      | Asynchronous    |
| AMDAHL/CodexPAD (45)          | 19.2Kbps     | X.25 (PVC)      |
| CodexPAD/GMDSS Server         | 19.2Kbps     | Asynchronous    |
| CCC1/ABACUS (95)              | 1.2Kbps      | Asynchronous    |
| CADAS/CCC1 (57)               | 1.2Kbps      | Asynchronous    |
| Calypso Receive               | 19.2Kbps     | Asynchronous    |
| WAFS Dish                     | 38.4Kbps     | X.25 (6 PVCs)   |
| Capsat Receive                | 19.2Kbps     | Asynchronous    |

#### C. Circuits for Access Only

| Customer (Line Number)         | <u>Speed</u> | <u>Protocol</u> |
|--------------------------------|--------------|-----------------|
| Server Access Service (SAS) 1* | T1           | TCP/IP          |
| SAS2 MUX                       | T1           | TCP/IP          |
| SAS3                           | T1           | TCP/IP          |
| SAS4                           | T1           | TCP/IP          |
| SAS5                           | T1           | TCP/IP          |

## **TECHNICAL EXHIBIT 3**

# GOVERNMENT FURNISHED EQUIPMENT, HARDWARE, SOFTWARE, NETWORKS AND CIRCUITS

| Customer (Line Number)       | <u>Speed</u> | <u>Protocol</u> |
|------------------------------|--------------|-----------------|
| Eastern Region Headquarters  | T1           | TCP/IP          |
| Central Region Headquarters  | T1           | TCP/IP          |
| Southern Region Headquarters | T1           | TCP/IP          |
| Southern Region Headquarters | T1           | TCP/IP          |
| Western Region Headquarters  | T1           | TCP/IP          |
| Alaska Region Headquarters   | T1           | TCP/IP          |
| Pacific Region Headquarters  | T1           | TCP/IP          |
| Johnson Space Flight Center  | 256Kbps      | TCP/IP          |
| NASA Goddard                 | T1           | TCP/IP          |
| NCDC                         | T1           | TCP/IP          |

<sup>\*</sup>Server Access Service - subscribers that have brought in T1 circuits to access NWS servers.

#### D. Radar Broadcast Circuits

| Customer (Line Number)          | <u>Speed</u>     | <u>Protocol</u> |
|---------------------------------|------------------|-----------------|
| Radar Products Service (RPS) 1* | T1               | TCP/IP          |
| RPS2                            | T1               | TCP/IP          |
| RPS3                            | T1               | TCP/IP          |
| RPS4                            | T1               | TCP/IP          |
| RPS5                            | T1               | TCP/IP          |
| RPS6                            | T1               | TCP/IP          |
| RPS7                            | T1               | TCP/IP          |
| RPS8                            | T1               | TCP/IP          |
| RPS9                            | T1 (Frame Relay) | TCP/IP          |

## **TECHNICAL EXHIBIT 3**

# GOVERNMENT FURNISHED EQUIPMENT, HARDWARE, SOFTWARE, NETWORKS AND CIRCUITS

| <u>Customer (Line Number)</u>        | <u>Speed</u> | <u>Protocol</u> |
|--------------------------------------|--------------|-----------------|
| National Climatic Data Center (NCDC) | T1           | TCP/IP          |

<sup>\*</sup>Radar Products Service - subscribers that have installed T1 circuits to receive the Radar Multicast (TE-11)

#### E. Special Connections

| Customer (Line Number)      | <u>Speed</u> | <u>Protocol</u>  |
|-----------------------------|--------------|------------------|
| FAA (FBWTG)                 | T1           | TCP/IP           |
| FAA (Atlantic City)         | T1           | TCP/IP           |
| NWWS (Chantilly)            | 56Kbps       | TCP/IP           |
| NWWS (Chantilly)            | 56Kbps       | TCP/IP           |
| Honolulu (Pacific Star4)    | 56Kbps       | X.25 (6 PVCs)    |
| New Orleans (Marta)         | 19.2Kbps     | Analog Signal    |
| Boston (Marta)              | 19.2Kbps     | Analog Signal    |
| Point Reyes (Marta)         | 19.2Kbps     | Analog Signal    |
| Family of Services (FOS) 1* | 56Kbps       | Asynchronous MUX |
| FOS2                        | 56Kbps       | Asynchronous MUX |
| FOS3                        | 56Kbps       | Asynchronous MUX |
| FOS4                        | 56Kbps       | X.25             |
| FOS5                        | 56Kbps       | X.25             |
| FOS6                        | 56Kbps       | Asynchronous MUX |
| EMWIN                       | 19.2Kbps     | Asynchronous     |

## **TECHNICAL EXHIBIT 3**

# GOVERNMENT FURNISHED EQUIPMENT, HARDWARE, SOFTWARE, NETWORKS AND CIRCUITS

#### F. External Network Interfaces

| Customer (Line Number) | <u>Speed</u> | <u>Protocol</u>                      |
|------------------------|--------------|--------------------------------------|
| NCEP                   | 155Mbps      | ATM                                  |
| NCEP                   | 155Mbps      | ATM                                  |
| DATMS-U (Navy)         | 100Mbps      | Fast Ethernet Interface to ATM Cloud |
| National Ice Center    | 10Mbps       | FNS (Fiber Network Service)          |
| NESDIS                 | 10Mbps       | FNS (Fiber Network Service)          |
| Campus Network         | 100Mbps      | Fast Ethernet                        |

#### G. Internal Network Interfaces

| <u>Customer (Line Number)</u> | <u>Mask</u>     | <u>Protocol</u> |  |
|-------------------------------|-----------------|-----------------|--|
| Gateway FDDI                  | 225.225.225.0   | FDDI            |  |
| Interior Firewall network     | 255.255.255.240 | Fast Ethernet   |  |
| Private Fast Ethernet         | 255.255.255.224 | Fast Ethernet   |  |
| BBN                           | 255.255.255.252 | Ethernet        |  |
| Netview Client                | 255.255.255.252 | Ethernet        |  |
| Netview Server                | 255.255.255.252 | Ethernet        |  |
| NWWS                          | 255.255.255.252 | Ethernet        |  |
| NCF                           | 255.255.255.128 | Ethernet        |  |
| Radar Multicast Server        | 255.255.255.224 | Ethernet        |  |
| TOC Monitors                  | 255.255.255.240 | Ethernet        |  |
| Exterior Firewall Network     | 255.255.255.240 | Fast Ethernet   |  |

<sup>\*</sup>Family of Services - commercial customers that subscribe to some of the Family of Services (FOS) non-TCP/IP related dissemination systems.

## **TECHNICAL EXHIBIT 3**

# GOVERNMENT FURNISHED EQUIPMENT, HARDWARE, SOFTWARE, NETWORKS AND CIRCUITS

| Customer (Line Number) | <u>Mask</u>     | <u>Protocol</u> |
|------------------------|-----------------|-----------------|
| Public Ethernet        | 255.255.255.0   | Ethernet        |
| AOMC                   | 255.255.255.224 | Ethernet        |
| AWIPS Firewall         | 255.255.255.0   | Ethernet        |
| USCG Amver Seas        | 255.255.255.240 | Ethernet        |
| Public Fast Ethernet   | 255.255.255.224 | Fast Ethernet   |
| Open Campus Switch     | 255.255.255.240 | Fast Ethernet   |
| EMWIN                  | 255.255.255.224 | Fast Ethernet   |
| CISCO Works            | 255.255.255.248 | Ethernet        |

#### H. Operational Dial Lines

| Customer (Line Number)                          | Speed    | <u>Protocol</u>         |
|---|----------|-------------------------|
| ASOS Operations and<br>Monitoring Center (AOMC) | Voice    | 800 Hotline             |
| AOMC  | 28.8Kbps | Updates (2 Lines)       |
| AOMC CronoLog Clock                             | Voice    | Updates (1 line)        |
| CADAS   | 300 bps  | Data (3 lines)          |
| SHIVA (Remote Access)                           | 19.2Kbps | Remote Access (5 lines) |
| ABACUS  | 1200bps  | Data (8 lines)          |
| Bracknell                                       | 64Kbps   | ISDN Backup             |
| Canada  | 64Kbps   | ISDN Backup             |
| Alaska  | 19.2Kbps | Dial Backup             |
| Honolulu  | 19.2Kbps | Dial Backup             |
| Wallops Island                                  | 19.2Kbps | Dial Backup             |

## **TECHNICAL EXHIBIT 3**

# GOVERNMENT FURNISHED EQUIPMENT, HARDWARE, SOFTWARE, NETWORKS AND CIRCUITS

| Customer (Line Number) | <u>Speed</u> | <u>Protocol</u>        |
|------------------------|--------------|------------------------|
| WMSCR                  | 19.2Kbps     | Dial Backup            |
| NCDC                   | 19.2Kbps     | Dial Backup            |
| EMWIN                  | 19.2Kbps     | Dial Backup            |
| CADAS Dial Out         | 110/300bps   | Data Ingest (37 lines) |
| AOMC RMM Lines         | 19.2Kbps     | ASOS Access (12 lines) |

#### **Dissemination Systems:**

National Oceanic and Atmospheric Administration Weather Wire

Radio Detection and Ranging Multicast System

**NWSpot** 

**EMWIN** 

**IWIN** 

Global Maritime Distress and Safety System

World Area Forecast System

## **TECHNICAL EXHIBIT 4**

# NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION WEATHER WIRE SYSTEM UPLINK SITES

**AFC** ANCHORAGE WFO

**ATWC** ALASKA TSUNAMI WARNING CENTER

**BOX** BOSTON WFO

**CTP** CENTRAL PENNSYLVANIA WFO

**EAX** KANSAS CITY, KANSAS WFO

**EQC** NATIONAL EARTHQUAKE CENTER

**FFC** ATLANTA WFO

**FWD** DALLAS / FT. WORTH WFO

ILN CINCINNATI WFO

LIX NEW ORLEANS/BATON ROUGE WFO

**MPX** MINNEAPOLIS WFO

**NCF** NETWORK CONTROL FACILITY

**PQR** PORTLAND WFO

**PTWC** PACIFIC TSUNAMI WARNING CENTER

**SJU** SAN JUAN WFO

**SLC** SALT LAKE CITY WFO

**SPC** STORM PREDICTION CENTER

**STO** SACRAMENTO WFO

**TPC** TROPICAL PREDICTION CENTER WFO

**TSA** TULSA WFO

## **TECHNICAL EXHIBIT 5**

## **MONITORED SYSTEMS**

The following system hardware is monitored only. These systems are the responsibility of other agencies or customers for problem analysis and resolution. Service Provider responsibility is to contact the system owner and advise of any error or alarms noted.

| Equipment Owner                             | <u>Hardware</u>                 | <b>Quantity</b> |
|---|---------------------------------|-----------------|
| National Center of Environmental Prediction | Communication Personal Computer | 2               |
|   | IBM RS/6000 Server              | 2               |
| National Data Buoy Center                   | IBM RS/6000 Servers             | 2               |
|   | Router/CSU                      | 1               |
| Hydrometeorological Automated Data System   | Hewlett Packard Server          | 3               |
|   | Switch                          | 1               |
| CADAS Replacement systems                   | Dell Server                     | 2               |

## **TECHNICAL EXHIBIT 6**

# LIST OF WEATHER FORECAST OFFICES, RIVER FORECAST CENTERS, REGIONAL HEADQUARTERS AND NATIONAL CENTERS

WFO - Weather Forecast Office RFC - River Forecast Center

(ABR) ABERDEEN WFO
National Weather Service
824 Brown County 14 South
Aberdeen, South Dakota 57401-9311

(ABQ) ALBURQUERQUE WFO National Weather Service 2341 Clark Carr Loop, SE Albuquerque, New Mexico 87106

(ACR) ALASKA RFC National Weather Service 6930 Sand Lake Rd. Anchorage, Alaska 99502-1845

(AFC) ANCHORAGE WFO National Weather Service 6930 Sand Lake Rd. Anchorage, Alaska 99502-1845

(AFG) FAIRBANKS WFO National Weather Service IARC bldg. 930 North Koykuk Dr. Room 355 Fairbanks, Alaska 99775-7345

(AJK) JUNEAU WFO National Weather Service 8500 Mendenhall Loop Road Juneau, Alaska 99801

(AKQ) WAKEFIELD WFO National Weather Service

10009 General Mahone Highway Wakefield, Virginia 23888

(ALR) SOUTHEAST RFC National Weather Service #4 Falcon Drive Peachtree City, Georgia. 30269

(ALY) ALBANY WFO National Weather Service 251 Fuller Road, Suite B300 Albany, New York 12203

(AMA) AMARILLO WFO National Weather Service 1900 English Road Amarillo, Texas 79107

(APX) North Central Lower Michigan WFO National Weather Service 8800 Passenheim Hill Rd. Gaylord, Michigan 49735-9454

(ARX) LA CROSSE WFO National Weather Service N 2788 County Road FA La Crosse, Wisconsin 54601-3029

(BCQ) Central Region Headquarters RHQ 601East 12th Street RM. 1836 Kansas City, Missouri 64106

(BGM) BINGHAMTOM WFO 32 Dawes Drive Johnson City, New York 13790

## **TECHNICAL EXHIBIT 6**

# LIST OF WEATHER FORECAST OFFICES, RIVER FORECAST CENTERS, REGIONAL HEADQUARTERS AND NATIONAL CENTERS

(BIS) BISMARK WFO

National Weather Service, NOAA 2301 University Drive, Bldg. 27 Bismarck, North Dakota 58504

(BMX) BIRMINGHAM WFO

National Weather Service 465 Weathervane Road Alabaster, Alabama 35007-5079

(BOI) BOISE WFO

National Weather Service 3833 S. Development Ave Building 3807 Boise Idaho 83705-5354

(BOU) BOULDER WFO

National Weather Service 325 Broadway Road Boulder, Colorado 80303-3328

(BOX) BOSTON WFO National Weather Service 445 Miles Standish Blvd.

Taunton, Massachusetts. 02780-1081

(BRO) BROWNSVILLE WFO

National Weather Service 20 South Vermillion Road Brownsville, Texas 78521-5798

(BTV) BURLINGTON WFO

National Weather Service 1200 Airport Drive Burlington International Airport South Burlington, Vermont 05403

(BUF) BUFFALO WFO National Weather Service

587 Aero Drive

Cheektowaga, New York 14225-1997

(BYZ) BILLINGS WFO

National Weather Service 2170 Overland Ave.

Billings Montana. 59102-6455

(CAE) COLUMBIA WFO

National Weather Service

2909 Aviation Way

West Columbia, South Carolina 29170-2102

(CAR) CARIBOU WFO

National Weather Service

810 Main St.

Caribou, Maine, 04736

(CHS) CHARLESTON WFO

National Weather Service 5777 South Aviation Avenue

Charleston, South Carolina 29406

(CLE) CLEVELAND WFO

National Weather Service

Cleveland Hopkins International Airport Federal

Facilities Building

Cleveland Ohio 44135

## **TECHNICAL EXHIBIT 6**

# LIST OF WEATHER FORECAST OFFICES, RIVER FORECAST CENTERS, REGIONAL HEADQUARTERS AND NATIONAL CENTERS

(COMT) COMET WFO National Weather Service 3450 Mitchell Lane Boulder Colorado 80301

(CRP) CORPUS CHRISTI WFO National Weather Service 300 John Pinson Drive Corpus Christi, Texas 78406

(CTP) CENTRAL PENNSYLVANIA WFO National Weather Service, NOAA 227 West Beaver Avenue, Suite 402 State Collage, Pennsylvania 16801-4821

(CYS) CHEYENNE WFO National Weather Service 1301 Airport Parkway Cheyenne, Wyoming 82001-1549

(DDC) DODGE CITY WFO National Weather Service 104 Airport Road Dodge City, Kansas 67801-9351

(DLH) DULUTH WFO National Weather Service, NOAA 5027 Miller Trunk Highway, Rm. 115 Duluth, Minnesota 55811-1442

(DMX) DES MOINES WFO National Weather Service 9607 NW Beaver Drive Johnston, Iowa 50131-1908

(DTX) DETROIT WFO National Weather Service 9200 White Lake Road White Lake, Michigan 48386-1126

(DVN) QUAD CITIES WFO National Weather Service 9050 Harrison Street Davenport Municipal Airport Davenport, Iowa 52806-7326

(EAX) KANSAS CITY, KANSAS WFO National Weather Service - Pleasant Hill 1803 North 7 Highway Pleasant Hill, Missouri 64080

(EHU) Southern Region Headquarters National Weather Service 819 Taylor St. Rm. 10A46 Fort Worth, Texas 76102

(EKA) EUREKA WFO National Weather Service Woodley Island 300 Startare Drive Eureca, California 95501-6000

(EPZ) EL PASO WFO National Weather Service 7950 Airport Road Santa Teresa New Mexico 88008

## **TECHNICAL EXHIBIT 6**

# LIST OF WEATHER FORECAST OFFICES, RIVER FORECAST CENTERS, REGIONAL HEADQUARTERS AND NATIONAL CENTERS

(EWX) AUSTIN/SAN ANTONIO WFO

National Weather Service 2090 Airport Road New Braunfels, Texas 78130

(EYW) KEY WEST WFO National Weather Service 3535 South Roosevelt Boulevard Suite 105 Key West, Florida 33040-5234

(FFC) ATLANTA WFO National Weather Service #4 Falcon Drive Peachtree City, Georgia 30269

(FGF) GRAND FORKS WFO National Weather Service 4797 Technology Circle Grand Forks, North Dakota 58203-0600

(FGZ) FLAGSTAFF WFO National Weather Service P.O. Box 16057 Bellemont Arizona 86015-6057

(FSD) SIOUX FALLS WFO National Weather Service 26 Weather Lane Sioux Falls South Dakota 57104-0198

(FWD) DALLAS / FT. WORTH WFO National Weather Service, NOAA

3401 Northern Cross Boulevard Fort Worth, Texas 76137-3610

(FWR) WEST GULF DALLAS/Ft. Worth RFC National Weather Service, NOAA 3401 Northern Cross Boulevard Fort Worth, Texas 76137-3610

(GGW) GLASGOW WFO National Weather Service 101 Airport Road Valley County International Airport PO BOX 991 Glasgow Montana 59230-0991

(GID) HASTINGS WFO National Weather Service, NOAA 6365 North Osborne Drive West Hastings, Nebraska 68901-9120

(GJT) GRAND JUNCTION WFO National Weather Service 792 Eagle Drive Grand Junction, Colorado 81506-8646

(GLD) GOODLAND, KANSAS WFO National Weather Service 920 Armory Road Goodland, Kansas 67735-9273

(GRB) GREEN BAY WFO National Weather Service 2485 South Point Road Green Bay Wisconsin 54313-5522

## **TECHNICAL EXHIBIT 6**

# LIST OF WEATHER FORECAST OFFICES, RIVER FORECAST CENTERS, REGIONAL HEADQUARTERS AND NATIONAL CENTERS

(GRR) GRAND RAPIDS WFO National Weather Service 4899 South Complex S.E. Grand Rapid, Michigan 49512-4034

(GSP) GREENVILLE/SPARTANBURG WFO National Weather Service 1549 GSP Drive Greer, South Carolina 29651

(GUM) TIYAN WFO National Weather Service Old NAS Control Tower 1775 Admiral Sherman Blvd. Tiyan, Guam 96913

(GYX) PORTLAND WFO National Weather Service 1 Weather Lane P.O. Box 1208 Grey, Maine 04039-1208

(HFO) HONOLULU WFO National Weather Service 2525 Correa Road, Suite 250 Honolulu, Hawaii 96822-2219

(HGX) HOUSTON/GALVESTON WFO National Weather Service 1620 Gill Road Dickinson, Texas 77539

(HNX) SAN JOAQUIN VALLEY WFO

National Weather Service 900 Foggy Bottom Road Hanford California 93230-5236

(ICT) WICHITA WFO National Weather Service 2142 South Tyler Road Wichita, Kansas 67209-3016

(ILM) WILMINGTON WFO National Weather Service 2015 Gardner Drive Wilmington, North Carolina 28405

(ILN) CINCINNATI WFO National Weather Service 1901 South State Rd. Rt. 134 Wilmington, Ohio 45177

(ILX) CENTRAL ILLINIOS WFO National Weather Service 1362 State Route 10 Lincoln, Illinois 62656-5417

(IND) INDIANAPOLIS WFO National Weather Service 6900 West Hanna Avenue Indianapolis, Indiana 46241-952

(IWX) NORTHERN INDIANA WFO National Weather Service 7506 E850N

## **TECHNICAL EXHIBIT 6**

# LIST OF WEATHER FORECAST OFFICES, RIVER FORECAST CENTERS, REGIONAL HEADQUARTERS AND NATIONAL CENTERS

Syracuse, Indiana 46567

(JAN) JACKSON WFO National Weather Service 234 Weather Service Drive Jackson, Mississippi 39208

(JAX) JACKSONVILLE WFO National Weather Service 13701 Fang Drive Jacksonville, Florida 32218

(JKL) JACKSON WFO National Weather Service 1329 Airport Road Jackson, Kentucky 41339

(KRF) KANSAS CITY, KANSAS RFC National Weather Service - Pleasant Hill 1803 North 7 Highway Pleasant Hill, Missouri 64080

(LBF) NORTH PLATTE WFO National Weather Service North Platte Regional Airport 5250 East Lee Bird Drive North Platte, Nebraska 69101-2473

(LCH) LAKE CHARLES WFO National Weather Service 500 Airport Blvd, #115 Lake Charles, Louisiana 70605 (LIX) NEW ORLEANS/BATON ROUGE WFO 62300 Airport Road Slidell, LA. 70460-5243

(LKN) ELKO WFO National Weather Service 3720 Paradise Drive Elko Nevada. 89801

(LMK) LOUISVILLE WFO National Weather Service 6201 Theiler Lane Louisville, Kentucky 40229

(LOT) CHICAGO WFO National Weather Service 333 West University Drive Romeoville, Illinois 60446-1804

(LOX) LOS ANGELES WFO National Weather Service 520 N Elevar Street Oxnard California 93030

(LSX) ST. LOUIS WFO National Weather Service 12 Research Park Drive St. Charles, Missouri 63304-5686

(LUB) LUBBOCK WFO National Weather Service 2579 s Loop 289, Suite 100 Lubbock, Texas 79423-1400 (LWX) BALTIMORE, MD/WASHINGTON D.C. WFO

## **TECHNICAL EXHIBIT 6**

# LIST OF WEATHER FORECAST OFFICES, RIVER FORECAST CENTERS, REGIONAL HEADQUARTERS AND NATIONAL CENTERS

National Weather Service 44087 Weather Service Road Sterling, Virginia 20166-2001

(LZK) LITTLE ROCK WFO National Weather Service 8400 Remount Road North Little Rock Airport North Little Rock, Arkansas 72118

(MAF) MIDLAND/ODESSA WFO National Weather Service 2500 Challenger Drive Midland, Texas 79706-2606

(MEG) MEMPHIS WFO National Weather Service 7777 Walnut Grove Road Room #0M1 Memphis, Tennessee 38120

(MFL) MIAMI WFO National Weather Service 11691 SW 17th Street Miami, Florida 33165-2149

(MFR) MEDFORD WFO National Weather Service 4003 Cirrus Drive Medford Oregon 97504

(MHX) MOREHEAD CITY WFO National Weather Service 53 Roberts Road Newport, North Carolina 28570 (MKX) MILWAUKEE WFO National Weather Service N 3533 Hardscrabble Road Dousman, Wisconsin 53118-9409

(MLB) MELBOURNE WFO National Weather Service 421 Croton Road Melbourne, Florida 32935

(MOB) MOBILE WFO National Weather Service 8400 Airport Boulevard Mobile, Alabama 36608

(MPX) MINNEAPOLIS WFO National Weather Service, NOAA 1733 Lake Drive West Chanhassen, Minnesota 55317

(MRX) KNOXVILLE/TRI-CITIES WFO National Weather Service 5974 Commerce Boulevard Morristown, Tennessee 37814

(MQT) MARQUETTE WFO National Weather Service 112 Airport Drive South Negaunee, Michigan 49886-9526

(MSO) MISSOULA WFO National Weather Service 5765 Highway 10 West Missoula, Montana 59802

## **TECHNICAL EXHIBIT 6**

# LIST OF WEATHER FORECAST OFFICES, RIVER FORECAST CENTERS, REGIONAL HEADQUARTERS AND NATIONAL CENTERS

(MSR) NORTH CENTRAL RFC NOAA

1733 Lake Drive West Chanhassen, Minnesota. 55317

(MTR) SAN FRANCISCO BAY AREA WFO

National Weather Service 21 Grace Hopper Ave STOP 5 Monterey California 93943-5505

(NHCR) TROPICAL PREDICTION CENTER WFO

National Weather Service 11691 S.W. 17th Street Miami, Florida 33165-2149

(NHCW) TROPICAL PREDICTION CENTER WFO

National Weather Service 11691 S.W. 17th Street Miami, Florida 33165-2149

(OAX) OMAHA WFO National Weather Service 6707 North 288 Street P.O. Box 719 Valley, Nebraska 68064-0719

(OHX) NASHVILLE WFO National Weather Service 500 Weather Station Road Old Hickory, Tennessee 37138-1145 (OKX) NEW YORK CITY WFO Brookhaven National Laboratory, NOAA 175 Brookhaven Avenue, Building NWS-1 Upton, New York 11973

(ORN) LOWER MISSISSIPPI RIVER RFC 62300 Airport Road Slidell, Louisiana 70460-5243

(OSFW) OSF WFO National Weather Service, NOAA University of Oklahoma 1200 Westheimer Dr. Room 138B Norman, Oklahoma 73069

(OTX) SPOKANE WFO National Weather Service 2601 North Rambo Road Spokane, Washington 99224-9164

(OUN) NORMAN WFO National Weather Service, NOAA University of Oklahoma 1200 Westheimer Dr. Room 101 Norman, Oklahoma 73069

(PAH) WEST PADUCAH WFO National Weather Service 8250 US Highway 60 West Paducah, Kentucky 42086-9762

(PBP) PACIFIC REGION HEADQUARTERS National Weather Service Grosvenor Center, Mauka Tower, 737 Bishop

## **TECHNICAL EXHIBIT 6**

# LIST OF WEATHER FORECAST OFFICES, RIVER FORECAST CENTERS, REGIONAL HEADQUARTERS AND NATIONAL CENTERS

Street, Suite 2200 Honolulu, Hawaii 96813

(PBZ) PITTSBURGH WFO National Weather Service, NOAA 192 Shafer Road Moon Township, Pennsylvania 15108

(PDT) PENDLETON WFO National Weather Service 2001 NW 56th Drive Pendleton Oregon 97801-4532

(PHI) PHILADELPHIA WFO National Weather Service, NOAA 732 Woodland Road Mt. Holly, New Jersey 08060

(PIH) POCATELLO WFO National Weather Service 1320 Beechcraft Ave. Pocatello Idaho 83204

(PQR) PORTLAND WFO Northeast Maywood Park, NWS 5241 NE 122nd Ave, NE, Room 115 Portland, Oregon 97230-1089

(PSR) PHOENIX WFO National Weather Service PAB 500 1521 N. Project Drive P.O. Box 52025 Phoenix, Arizona 85072-2025

(PTR) NORTHWEST RFC

Northeast Maywood Park, NWS 5241 NE 122ND AVE, NE, Room 115 Portland, Oregon 97230-1089

(PUB) PUEBLO WFO National Weather Service 3 Eaton Way Pueblo, Colorado 81001-4856

(RAH) RALEIGH/DURHAM WFO National Weather Service 1005 Capabilty Dr., Suite 300 Raleigh, North Carlonia 27606

(REV) RENO WFO
National Weather Service
2350 Raggio Parkway
Reno, Nevada 89512-3900
(RHA) MIDDLE ATLANTIC RFC
State Collage Suite 402
227 West Beaver Avenue
State Collage, Pennsylvania 16801-4821

(RIW) RIVERTON WFO National Weather Service 12744 West US Highway 26 Riverton, Wyoming 82501-9804

(RLX) CHARLESTON WFO National Weather Service 400 Parkway Road Charleston, West Virginia 25309

## **TECHNICAL EXHIBIT 6**

# LIST OF WEATHER FORECAST OFFICES, RIVER FORECAST CENTERS, REGIONAL HEADQUARTERS AND NATIONAL CENTERS

(RNK) ROANOKE WFO National Weather Service

VA Tech Corp. Research Center 1750 Forecast

Drive

Blackburg, Virginia 24060-6337

(RSA) SACRAMENTO RFC

California-Nevada

National Weather Service 3310 El Camino Suite 228

(SEW) SEATTLE WFO

National Weather Service

7600 Sand Point Way, NE. Building 1

Seattle, Washington 98115

(SDIF) SYSTEM DEVELOPMENT AND

INTEGRATION FACILITY

1500 PRC Drive

McLain, Virginia 22102

(SFMG) SPACE FLIGHT

METEOROLOGICAL GROUP WFO

National Weather Service

Building 30, Room 2104, Johnson Space Center

Houston, Texas 77058

(SGF) SPRINGFIELD WFO

National Weather Service

Regional Airport 5805 West Highway EE

Springfield, Missouri 65802-8400

(SGX) SAN DIEGO WFO

National Weather Service

Promontory Building 11440 W Bernardo Court

STE 230

San Diego California 92127-1643

(SHV) SHREVEPORT WFO

National Weather Service

5655 Hollywood Avenue

Shreveport, Louisiana 71109-7750

(SJT) SAN ANGELO WFO

National Weather Service 7654 Knickerbocker Road

703 i Killekerboeker Rodd

San Angelo, Texas 76904

(SJU) SAN JUAN WFO

National Weather Service

4000 Carretera 190

Carolina, Puerto Rico 00979

(SLC) SALT LAKE CITY WFO

National Weather Service

2242 West North Temple

Salt Lake City, Utah 84116

(SPCR) STORM PREDICTION CENTER

National Centers for Environmental Prediction

Storm Prediction Center

1313 Halley Circle

Norman, Oklahoma 73069

(SPCW) STORM PREDICTION CENTER

National Centers for Environmental Prediction

## **TECHNICAL EXHIBIT 6**

# LIST OF WEATHER FORECAST OFFICES, RIVER FORECAST CENTERS, REGIONAL HEADQUARTERS AND NATIONAL CENTERS

Storm Prediction Center 1313 Halley Circle Norman, Oklahoma 73069

(STO) SACRAMENTO WFO National Weather Service 3310 El Camino Room 228 Sacramento California 95821-6308

(STR) SALT LAKE CITY RFC Colorado Basin 2242 West North Temple Salt Lake City, Utah 84116

(TAE) TALLAHASSEE WFO National Weather Service Regional Airport 3300 Capital Circle, SW Suite 227 Tallahassee, Florida 32310

(TAR) BOSTON RFC Northeast National Weather Service 445 Miles Standish Blvd. Taunton, Massachusetts 02780-1081

(TBW) TAMPA WFO National Weather Service 2525 14th Avenue, S.E. Ruskin, Florida 33570

(TFX) GREAT FALLS WFO National Weather Service 5324 Tri-Hill Frontage Road Great Falls, Montana 59404 (TIR) OHIO RFC National Weather Service 1901 South State Rd. Rt. 134 Wilmington, Ohio 45177

(TOP) TOPEKA WFO National Weather Service 1116 NE Strait Ave. Topeka, Kansas 66616-1698

(TSA) TULSA WFO National Weather Service 10159 East 11TH ST. Suite 300 Tulsa, Oklahoma 74128

(TUA) TULSA RFC National Weather Service 10159 East 11st., Suite 300 Tulsa, Oklahoma 74128-3050

(TWC) TUCSON WFO National Weather Service 520 N Park Ave. Ste 304 Tucson Arizona 85719-5035

(UNR) RAPID CITY WFO National Weather Service 300 East Signal Drive Rapid City, South Dakota 57701-3800

(VEF) LAS VEGAS WFO National Weather Service

## **TECHNICAL EXHIBIT 6**

# LIST OF WEATHER FORECAST OFFICES, RIVER FORECAST CENTERS, REGIONAL HEADQUARTERS AND NATIONAL CENTERS

7851 Industrial Road Las Vegas, Nevada 89139

(VHW) Western Region Headquarters RHQ NWS Western Region Headquarters Federal Building 125 S. State Street, Room 1210 Salt Lake City, Utah 84138-110

(VRH) ALASKA REGION HEADQUARTERS National Weather Service 222 West 7th Avenue, No. 23, Room 517 Anchorage, Alaska 99513-7575

(VUY) Eastern Region Headquarters RHQ National Weather Forecast Office, NOAA 630 Johnson Avenue Bohemia, New York 11716-2618

(WNAR) AVIATION WEATHER CENTER National Weather Service 7220 N.W. 101st Terrace Kansas City, Missouri 64153

(WNAW) AVIATION WEATHER CENTER National Weather Service 7220 N.W. 101st Terrace Kansas City, Missouri 64153

(WNOR) NATIONAL CENTER FOR ENVIRONMENTAL PREDICTION RFC National Weather Service 5200 Auth Road Camp Spring, Maryland 20746

(WNOW) NATIONAL CENTER for ENVIRONMENTAL PREDICTION WFO National Weather Service 5200 Auth Road Camp Spring, Maryland 20746

## **TECHNICAL EXHIBIT 7**

| Site ID <sup>1</sup> | WFO/RFC        | State <sup>2</sup> | Organization | NWWS<br>Uplink 1 | NWWS<br>Uplink2 | Radar | Radar Maintenance<br>Responsibility |
|----------------------|----------------|--------------------|--------------|------------------|-----------------|-------|-------------------------------------|
| ABR                  | Aberdeen       | SD                 | WFO          | EAX              | TSA             | KABR  | NWS                                 |
| ABQ                  | Albuquerque    | NM                 | WFO          | FWD              | SLC             | KABX  | NWS                                 |
| AKQ                  | Wakefield      | VA                 | WFO          | CTP              | BOX             | KAKQ  | NWS                                 |
| AMA                  | Amarillo       | TX                 | WFO          | TSA              | EAX             | KAMA  | NWS                                 |
| MFL                  | Miami          | FL                 | WFO          | FFC              | LIX             | KAMX  | NWS                                 |
| APX                  | Gaylord        | MI                 | WFO          | MPX              | ILN             | KAPX  | NWS                                 |
| ARX                  | La Crosse      | WI                 | WFO          | MPX              | ILN             | KARX  | NWS                                 |
| SEW                  | Seattle/Tacoma | WA                 | WFO          | PQR              | STO             | KATX  | NWS                                 |
| STO                  | Sacramento     | CA                 | WFO          | STO              | PQR             | KBBX  | DOD                                 |
| BGM                  | Binghamton     | NY                 | WFO          | СТР              | BOX             | KBGM  | NWS                                 |
| EKA                  | Eureka         | CA                 | WFO          | STO              | PQR             | KBHX  | NWS                                 |
| BIS                  | Bismarck       | ND                 | WFO          | EAX              | TSA             | KBIS  | NWS                                 |
| BYZ                  | Billings       | MT                 | WFO          | EAX              | TSA             | KBLX  | NWS                                 |
| BMX                  | Birmingham     | AL                 | WFO          | FFC              | LIX             | KBMX  | NWS                                 |
| BOX                  | Boston         | MA                 | WFO          | BOX              | СТР             | KBOX  | NWS                                 |
| BRO                  | Brownsville    | TX                 | WFO          | FWD              | SLC             | KBRO  | NWS                                 |
| BUF                  | Buffalo        | NY                 | WFO          | BOX              | СТР             | KBUF  | NWS                                 |
| EYW                  | Key West       | FL                 | WFO          | FFC              | LIX             | KBYX  | NWS                                 |
| CAE                  | Columbia       | SC                 | WFO          | FFC              | LIX             | KCAE  | NWS                                 |
| CAR                  | Caribou        | ME                 | WFO          | BOX              | СТР             | KCBW  | NWS                                 |
| BOI                  | Boise          | ID                 | WFO          | PQR              | STO             | KCBX  | NWS                                 |
| СТР                  | State College  | PA                 | WFO          | СТР              | BOX             | KCCX  | NWS                                 |

<sup>&</sup>lt;sup>1</sup> Three Letter Site Identifier

<sup>&</sup>lt;sup>2</sup> United States Post Office Two Letter State Identifiers

## **TECHNICAL EXHIBIT 7**

| Site ID <sup>1</sup> | WFO/RFC            | State <sup>2</sup> | Organization | NWWS<br>Uplink 1 | NWWS<br>Uplink2 | Radar | Radar Maintenance<br>Responsibility |
|----------------------|--------------------|--------------------|--------------|------------------|-----------------|-------|-------------------------------------|
| CLE                  | Cleveland          | ОН                 | WFO          | ILN              | MPX             | KCLE  | NWS                                 |
| CHS                  | Charleston         | SC                 | WFO          | FFC              | LIX             | KCLX  | NWS                                 |
| CRP                  | Corpus Christi     | TX                 | WFO          | FWD              | SLC             | KCRP  | NWS                                 |
| BTV                  | Burlington         | VT                 | WFO          | BOX              | СТР             | KCXX  | NWS                                 |
| CYS                  | Cheyenne           | WY                 | WFO          | EAX              | TSA             | KCYS  | NWS                                 |
| STO                  | Sacramento         | CA                 | WFO          | STO              | PQR             | KDAX  | NWS                                 |
| DDC                  | Dodge City         | KS                 | WFO          | TSA              | EAX             | KDDC  | NWS                                 |
| EWX                  | Austin/San Antonio | TX                 | WFO          | FWD              | SLC             | KDFX  | DOD                                 |
| PHI                  | Mount Holly        | NJ                 | WFO          | СТР              | BOX             | KDIX  | NWS                                 |
| DLH                  | Duluth             | MN                 | WFO          | MPX              | ILN             | KDLH  | NWS                                 |
| DMX                  | Des Moines         | IA                 | WFO          | MPX              | ILN             | KDMX  | NWS                                 |
| AKQ                  | Wakefield          | VA                 | WFO          | СТР              | BOX             | KDOX  | DOD                                 |
| DTX                  | Detroit            | MI                 | WFO          | MPX              | ILN             | KDTX  | NWS                                 |
| DVN                  | Davenport          | IA                 | WFO          | MPX              | ILN             | KDVN  | NWS                                 |
| SJT                  | San Angelo         | TX                 | WFO          | FWD              | SLC             | KDYX  | DOD                                 |
| EAX                  | Pleasant Hill      | МО                 | WFO          | EAX              | TSA             | KEAX  | NWS                                 |
| TWC                  | Tucson             | AZ                 | WFO          | SLC              | FWD             | KEMX  | NWS                                 |
| ALY                  | Albany             | NY                 | WFO          | BOX              | СТР             | KENX  | NWS                                 |
| TAE                  | Tallahassee        | FL                 | WFO          | FFC              | LIX             | KEOX  | DOD                                 |
| EPZ                  | El Paso            | TX                 | WFO          | FWD              | SLC             | KEPZ  | NWS                                 |
| VEF                  | Las Vegas          | NV                 | WFO          | STO              | PQR             | KESX  | NWS                                 |
| MOB                  | Mobile             | AL                 | WFO          | FFC              | LIX             | KEVX  | DOD                                 |
| EWX                  | Austin/San Antonio | TX                 | WFO          | FWD              | SLC             | KEWX  | NWS                                 |
| VEF                  | Las Vegas          | NV                 | WFO          | STO              | PQR             | KEYX  | DOD                                 |

## **TECHNICAL EXHIBIT 7**

| Site ID <sup>1</sup> | WFO/RFC                | State <sup>2</sup> | Organization | NWWS<br>Uplink 1 | NWWS<br>Uplink2 | Radar | Radar Maintenance<br>Responsibility |
|----------------------|------------------------|--------------------|--------------|------------------|-----------------|-------|-------------------------------------|
| RNK                  | Blacksburg/Roanoke     | VA                 | WFO          | FFC              | LIX             | KFCX  | NWS                                 |
| OUN                  | Norman                 | OK                 | WFO          | TSA              | EAX             | KFDR  | DOD                                 |
| ABQ                  | Albuquerque            | NM                 | WFO          | FWD              | SLC             | KFDX  | DOD                                 |
| FFC                  | Peachtree City         | FL                 | WFO          | FFC              | LIX             | KFFC  | NWS                                 |
| FSD                  | Sioux Falls            | SD                 | WFO          | EAX              | TSA             | KFSD  | NWS                                 |
| FGZ                  | Flagstaff              | AZ                 | WFO          | SLC              | FWD             | KFSX  | NWS                                 |
| BOU                  | Denver                 | СО                 | WFO          | EAX              | TSA             | KFTG  | NWS                                 |
| FWD                  | Dallas/Fort Worth      | TX                 | WFO          | FWD              | SLC             | KFWS  | NWS                                 |
| GGW                  | Glasgow                | MT                 | WFO          | EAX              | TSA             | KGGW  | NWS                                 |
| GJT                  | Grand Junction         | СО                 | WFO          | SLC              | FWD             | KGJX  | NWS                                 |
| GLD                  | Goodland               | KS                 | WFO          | EAX              | TSA             | KGLD  | NWS                                 |
| GRB                  | Green Bay              | WI                 | WFO          | MPX              | ILN             | KGRB  | NWS                                 |
| FWD                  | Dallas/Fort Worth      | TX                 | WFO          | FWD              | SLC             | KGRK  | DOD                                 |
| GRR                  | Grand Rapids           | MI                 | WFO          | MPX              | ILN             | KGRR  | NWS                                 |
| GSP                  | Greenville/Spartanburg | SC                 | WFO          | FFC              | LIX             | KGSP  | NWS                                 |
| JAN                  | Jackson                | MS                 | WFO          | LIX              | FFC             | KGWX  | DOD                                 |
| GYX                  | Gray/Portland          | ME                 | WFO          | BOX              | СТР             | KGYX  | NWS                                 |
| EPZ                  | El Paso                | TX                 | WFO          | FWD              | SLC             | KHDX  | DOD                                 |
| HGX                  | Houston/Galveston      | TX                 | WFO          | FWD              | SLC             | KHGX  | NWS                                 |
| HNX                  | Hanford                | CA                 | WFO          | STO              | PQR             | KHNX  | NWS                                 |
| PAH                  | Paducah                | KY                 | WFO          | ILN              | MPX             | KHPX  | DOD                                 |
| BMX                  | Birmingham             | AL                 | WFO          | FFC              | LIX             | KHTX  | NWS                                 |
| ICT                  | Wichita                | KS                 | WFO          | TSA              | EAX             | KICT  | NWS                                 |
| SLC                  | Salt Lake City         | UT                 | WFO          | SLC              | FWD             | KICX  | NWS                                 |

## **TECHNICAL EXHIBIT 7**

| Site ID <sup>1</sup> | WFO/RFC          | State <sup>2</sup> | Organization | NWWS<br>Uplink 1 | NWWS<br>Uplink2 | Radar | Radar Maintenance<br>Responsibility |
|----------------------|------------------|--------------------|--------------|------------------|-----------------|-------|-------------------------------------|
| ILN                  | Wilmington       | ОН                 | WFO          | ILN              | MPX             | KILN  | NWS                                 |
| ILX                  | Lincoln          | IL                 | WFO          | MPX              | ILN             | KILX  | NWS                                 |
| IND                  | Indianapolis     | IN                 | WFO          | ILN              | MPX             | KIND  | NWS                                 |
| TSA                  | Tulsa            | ОК                 | WFO          | TSA              | EAX             | KINX  | NWS                                 |
| PSR                  | Phoenix          | AZ                 | WFO          | SLC              | FWD             | KIWA  | NWS                                 |
| IWX                  | Northern Indiana | IN                 | WFO          | ILN              | MPX             | KIWX  | NWS                                 |
| JAN                  | Jackson          | MS                 | WFO          | LIX              | FFC             | KJAN  | NWS                                 |
| JAX                  | Jacksonville     | FL                 | WFO          | FFC              | LIX             | KJAX  | NWS                                 |
| FFC                  | Peachtree City   | FL                 | WFO          | FFC              | LIX             | KJGX  | DOD                                 |
| JKL                  | Jackson          | KY                 | WFO          | ILN              | MPX             | KJKL  | NWS                                 |
| LUB                  | Lubbock          | TX                 | WFO          | FWD              | SLC             | KLBB  | NWS                                 |
| LCH                  | Lake Charles     | LA                 | WFO          | LIX              | FFC             | KLCH  | NWS                                 |
| LIX                  | New Orleans      | LA                 | WFO          | LIX              | FFC             | KLIX  | NWS                                 |
| LBF                  | North Platte     | NE                 | WFO          | EAX              | TSA             | KLNX  | NWS                                 |
| LOT                  | Chicago          | IL                 | WFO          | MPX              | ILN             | KLOT  | NWS                                 |
| LKN                  | Elko             | NV                 | WFO          | STO              | PQR             | KLRX  | NWS                                 |
| LSX                  | St. Louis        | МО                 | WFO          | MPX              | ILN             | KLSX  | NWS                                 |
| ILM                  | Wilmington       | NC                 | WFO          | FFC              | LIX             | KLTX  | NWS                                 |
| LMK                  | Louisville       | KY                 | WFO          | ILN              | MPX             | KLVX  | NWS                                 |
| LWX                  | Sterling         | VA                 | WFO          | СТР              | BOX             | KLWX  | NWS                                 |
| LZK                  | Little Rock      | AR                 | WFO          | LIX              | FFC             | KLZK  | NWS                                 |
| MAF                  | Midland/Odessa   | TX                 | WFO          | FWD              | SLC             | KMAF  | NWS                                 |
| MFR                  | Medford          | OR                 | WFO          | PQR              | STO             | KMAX  | NWS                                 |
| BIS                  | Bismarck         | ND                 | WFO          | EAX              | TSA             | KMBX  | DOD                                 |

## **TECHNICAL EXHIBIT 7**

| Site ID <sup>1</sup> | WFO/RFC              | State <sup>2</sup> | Organization | NWWS<br>Uplink 1 | NWWS<br>Uplink2 | Radar | Radar Maintenance<br>Responsibility |
|----------------------|----------------------|--------------------|--------------|------------------|-----------------|-------|-------------------------------------|
| MHX                  | Moorehead City       | NC                 | WFO          | FFC              | LIX             | KMHX  | NWS                                 |
| MKX                  | Milwaukee            | WI                 | WFO          | MPX              | ILN             | KMKX  | NWS                                 |
| MLB                  | Melbourne            | FL                 | WFO          | FFC              | LIX             | KMLB  | NWS                                 |
| MOB                  | Mobile               | AL                 | WFO          | FFC              | LIX             | КМОВ  | NWS                                 |
| MPX                  | Minneapolis          | MN                 | WFO          | MPX              | ILN             | KMPX  | NWS                                 |
| MQT                  | Marquette            | MI                 | WFO          | MPX              | ILN             | KMQT  | NWS                                 |
| MRX                  | Knoxville/Tri Cities | TN                 | WFO          | LIX              | FFC             | KMRX  | NWS                                 |
| MSO                  | Missoula             | MT                 | WFO          | PQR              | STO             | KMSX  | NWS                                 |
| SLC                  | Salt Lake City       | UT                 | WFO          | SLC              | FWD             | KMTX  | NWS                                 |
| MTR                  | San Francisco        | CA                 | WFO          | STO              | PQR             | KMUX  | NWS                                 |
| FGF                  | Grand Forks          | ND                 | WFO          | MPX              | ILN             | KMVX  | NWS                                 |
| BMX                  | Birmingham           | AL                 | WFO          | FFC              | LIX             | KMXX  | DOD                                 |
| SGX                  | San Diego            | CA                 | WFO          | STO              | PQR             | KNKX  | NWS                                 |
| MEG                  | Memphis              | TN                 | WFO          | LIX              | FFC             | KNQA  | NWS                                 |
| OAX                  | Omaha                | NE                 | WFO          | EAX              | TSA             | KOAX  | NWS                                 |
| OHX                  | Nashville            | TN                 | WFO          | ILN              | MPX             | KOHX  | NWS                                 |
| OKX                  | New York City        | NY                 | WFO          | BOX              | СТР             | KOKX  | NWS                                 |
| OTX                  | Spokane              | WA                 | WFO          | PQR              | STO             | KOTX  | NWS                                 |
| PAH                  | Paducah              | KY                 | WFO          | ILN              | MPX             | KPAH  | NWS                                 |
| PBZ                  | Pittsburgh           | PA                 | WFO          | CTP              | BOX             | KPBZ  | NWS                                 |
| PDT                  | Pendleton            | OR                 | WFO          | PQR              | STO             | KPDT  | NWS                                 |
| LCH                  | Lake Charles         | LA                 | WFO          | LIX              | FFC             | КРОЕ  | DOD                                 |
| PUB                  | Pueblo               | СО                 | WFO          | TSA              | EAX             | KPUX  | NWS                                 |
| RAH                  | Raleigh/Durham       | NC                 | WFO          | FFC              | LIX             | KRAX  | NWS                                 |

## **TECHNICAL EXHIBIT 7**

| Site ID <sup>1</sup> | WFO/RFC        | State <sup>2</sup> | Organization | NWWS<br>Uplink 1 | NWWS<br>Uplink2 | Radar | Radar Maintenance<br>Responsibility |
|----------------------|----------------|--------------------|--------------|------------------|-----------------|-------|-------------------------------------|
| REV                  | Reno           | NV                 | WFO          | STO              | PQR             | KRGX  | NWS                                 |
| RIW                  | Riverton       | WY                 | WFO          | EAX              | TSA             | KRIW  | NWS                                 |
| RLX                  | Charleston     | WV                 | WFO          | ILN              | MPX             | KRLX  | NWS                                 |
| PQR                  | Portland       | OR                 | WFO          | PQR              | STO             | KRTX  | NWS                                 |
| PIH                  | Pocatello      | ID                 | WFO          | PQR              | STO             | KSFX  | NWS                                 |
| SGF                  | Springfield    | МО                 | WFO          | EAX              | TSA             | KSGF  | NWS                                 |
| SHV                  | Shreveport     | LA                 | WFO          | LIX              | FFC             | KSHV  | NWS                                 |
| SJT                  | San Angelo     | TX                 | WFO          | FWD              | SLC             | KSJT  | NWS                                 |
| SGX                  | San Diego      | CA                 | WFO          | STO              | PQR             | KSOX  | NWS                                 |
| TSA                  | Tulsa          | OK                 | WFO          | TSA              | EAX             | KSRX  | NWS                                 |
| TBW                  | Tampa Bay Area | FL                 | WFO          | FFC              | LIX             | KTBW  | NWS                                 |
| TFX                  | Great Falls    | MT                 | WFO          | EAX              | TSA             | KTFX  | NWS                                 |
| TAE                  | Tallahassee    | FL                 | WFO          | FFC              | LIX             | KTLH  | NWS                                 |
| OUN                  | Norman         | OK                 | WFO          | TSA              | EAX             | KTLX  | NWS                                 |
| TOP                  | Topeka         | KS                 | WFO          | EAX              | TSA             | KTWX  | NWS                                 |
| BTV                  | Burlington     | VT                 | WFO          | BOX              | CTP             | KTYX  | DOD                                 |
| UNR                  | Rapid City     | SD                 | WFO          | EAX              | TSA             | KUDX  | NWS                                 |
| GID                  | Hastings       | NE                 | WFO          | EAX              | TSA             | KUEX  | NWS                                 |
| JAX                  | Jacksonville   | FL                 | WFO          | FFC              | LIX             | KVAX  | DOD                                 |
| LOX                  | Los Angeles    | CA                 | WFO          | STO              | PQR             | KVBX  | DOD                                 |
| OUN                  | Norman         | OK                 | WFO          | TSA              | EAX             | KVNX  | DOD                                 |
| LOX                  | Los Angeles    | CA                 | WFO          | STO              | PQR             | KVTX  | NWS                                 |
| PSR                  | Phoenix        | AZ                 | WFO          | SLC              | FWD             | KYUX  | NWS                                 |
| AFC                  | Anchorage      | AK                 | WFO          | AFC              | STO, PQR        | PABC  | FAA                                 |

## **TECHNICAL EXHIBIT 7**

| Site ID <sup>1</sup> | WFO/RFC           | State <sup>2</sup> | Organization | NWWS<br>Uplink 1 | NWWS<br>Uplink2 | Radar | Radar Maintenance<br>Responsibility |
|----------------------|-------------------|--------------------|--------------|------------------|-----------------|-------|-------------------------------------|
| AJK                  | Juneau            | AK                 | WFO          | AFC              | STO, PQR        | PACG  | FAA                                 |
| AFG                  | Fairbanks         | AK                 | WFO          | AFC              | STO, PQR        | PAEC  | FAA                                 |
| AFC                  | Anchorage         | AK                 | WFO          | AFC              | STO, PQR        | PAHG  | FAA                                 |
| AFC                  | Anchorage         | AK                 | WFO          | AFC              | STO, PQR        | PAIH  | FAA                                 |
| AFC                  | Anchorage         | AK                 | WFO          | AFC              | STO, PQR        | PAKC  | FAA                                 |
| AFG                  | Fairbanks         | AK                 | WFO          | AFC              | STO, PQR        | PAPD  | FAA                                 |
| GUM                  | Tiyana            | GU                 | WFO          | STO              | PQR             | PGUA  | NWS                                 |
| HFO                  | Honolulu          | HI                 | WFO          | STO              | PQR             | PHKI  | FAA                                 |
| HFO                  | Honolulu          | HI                 | WFO          | STO              | PQR             | PHKM  | FAA                                 |
| HFO                  | Honolulu          | HI                 | WFO          | STO              | PQR             | РНМО  | FAA                                 |
| HFO                  | Honolulu          | HI                 | WFO          | STO              | PQR             | PHWA  | FAA                                 |
| SJU                  | San Juan          | PR                 | WFO          | SJU              | FFC, LIX        | TJUA  | NWS                                 |
| ACR                  | Anchorage         | AK                 | RFC          | AFC              | STO, PQR        |       |                                     |
| ALR                  | Peachtree City    | GA                 | RFC          | FFC              | LIX             |       |                                     |
| ANCF                 | Silver Spring     | MD                 | NCF          |                  |                 |       |                                     |
| BCQ                  | Kansas City       | МО                 | CRH          |                  |                 |       |                                     |
| COMT                 | Boulder           | СО                 | WFO          |                  |                 |       |                                     |
| EHU                  | Fort Worth        | TX                 | SRH          |                  |                 |       |                                     |
| FWR                  | Dallas/Fort Worth | TX                 | RFC          | FWD              | SLC             |       |                                     |
| KRF                  | Pleasant Hill     | KS                 | RFC          | EAX              | TSA             |       |                                     |
| MSR                  | Chanhassen        | MN                 | RFC          | MPX              | ILN             |       |                                     |
| NHCR                 | Miami             | FL                 | NC           | SPCW             | NHCW            |       |                                     |
| NHCW                 | Miami             | FL                 | NC           | SPCW             | NHCW            |       |                                     |
| NHDA                 | Silver Spring     | MD                 | HQDEV        |                  |                 |       |                                     |

## **TECHNICAL EXHIBIT 7**

| Site ID <sup>1</sup> | WFO/RFC        | State <sup>2</sup> | Organization | NWWS<br>Uplink 1 | NWWS<br>Uplink2 | Radar | Radar Maintenance<br>Responsibility |
|----------------------|----------------|--------------------|--------------|------------------|-----------------|-------|-------------------------------------|
| NHDR                 | Silver Spring  | MD                 | HQDEV        |                  |                 |       |                                     |
| NHDW                 | Silver Spring  | MD                 | HQDEV        |                  |                 |       |                                     |
| NHOR                 | Silver Spring  | MD                 | HQOPS        |                  |                 |       |                                     |
| NHOW                 | Silver Spring  | MD                 | HQOPS        | SPCW             | NHCW            |       |                                     |
| NMTR                 | Silver Spring  | MD                 | HQDEV        |                  |                 |       |                                     |
| NMTW                 | Silver Spring  | MD                 | HQDEV        |                  |                 |       |                                     |
| NRS-6                | Boulder (FSL)  | СО                 | FSL          |                  |                 |       |                                     |
| NRS-7                | Asheville      | NC                 | NCDC         |                  |                 |       |                                     |
| NTCA                 | Kansas City    | MO                 | NTC          |                  |                 |       |                                     |
| NTCB                 | Kansas City    | MO                 | NTC          |                  |                 |       |                                     |
| NTCC                 | Kansas City    | MO                 | NTC          |                  |                 |       |                                     |
| NTCD                 | Kansas City    | MO                 | NTC          |                  |                 |       |                                     |
| ORN                  | Slidell        | LA                 | RFC          | LIX              | FFC             |       |                                     |
| OSFW                 | Norman         | OK                 | OSF          |                  |                 |       |                                     |
| PBP                  | Honolulu       | HI                 | PRH          |                  |                 |       |                                     |
| PTR                  | Portland       | OR                 | RFC          | PQR              | STO             |       |                                     |
| RHA                  | State College  | PA                 | RFC          | СТР              | BOX             |       |                                     |
| RSA                  | Sacramento     | CA                 | RFC          | STO              | PQR             |       |                                     |
| SDIF                 | McLean         | VA                 | DEV          |                  |                 |       |                                     |
| SFMG                 | Houston (JSC)  | TX                 | JSC          |                  |                 |       |                                     |
| SPCR                 | Norman         | OK                 | NC           | SPCW             | NHCW            |       |                                     |
| SPCW                 | Norman         | OK                 | NC           | SPCW             | NHCW            |       |                                     |
| STR                  | Salt Lake City | UT                 | RFC          | SLC              | FWD             |       |                                     |
| TAR                  | Taunton        | MA                 | RFC          | BOX              | СТР             |       |                                     |

## **TECHNICAL EXHIBIT 7**

| Site ID <sup>1</sup> | WFO/RFC        | State <sup>2</sup> | Organization | NWWS<br>Uplink 1 | NWWS<br>Uplink2 | Radar | Radar Maintenance<br>Responsibility |
|----------------------|----------------|--------------------|--------------|------------------|-----------------|-------|-------------------------------------|
| TBED                 | McLean         | VA                 | DEV          |                  |                 |       |                                     |
| TIR                  | Wilmington     | ОН                 | RFC          | ILN              | MPX             |       |                                     |
| TUA                  | Tulsa          | OK                 | RFC          | TSA              | EAX             |       |                                     |
| VHW                  | Salt Lake City | UT                 | WRH          |                  |                 |       |                                     |
| VRH                  | Anchorage      | AK                 | ARH          |                  |                 |       |                                     |
| VUY                  | Bohemia        | NY                 | ERH          |                  |                 |       |                                     |
| WNAR                 | Kansas City    | МО                 | NC           | SPCW             | NHCW            |       |                                     |
| WNAW                 | Kansas City    | МО                 | NC           | SPCW             | NHCW            |       |                                     |
| WNOR                 | Camp Springs   | MD                 | NC           | SPCW             | NHCW            |       |                                     |
| WNOW                 | Camp Springs   | MD                 | NC           | SPCW             | NHCW            |       |                                     |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |        |        | COMMISSION |         |         |     |     |                    |                                   |
|----------|--------|--------|------------|---------|---------|-----|-----|--------------------|-----------------------------------|
| EQUIP_ID | SYSTEM | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION           | AIRPORT NAME                      |
| ADQ      | ASOS   | NWS    | 1/1/1997   | ADQ     | AFC     | AR  | AR  | Kodiak             | Kodiak Airport                    |
| AKN      | ASOS   | NWS    | 6/1/1998   | AKN     | AFC     | AR  | AR  | King Salmon        | King Salmon Airport               |
| AKW      | ASOS   | FAA    | 4/1/1997   | AKW     | AJK     | AR  | AR  | Klawock            | Klawock Airport                   |
| ANC      | ASOS   | NWS    | 6/1/1998   | ANC     | AFC     | AR  | AR  | Anchorage          | Anchorage Int'l. Airport          |
| ANN      | ASOS   | NWS    | 9/1/1996   | ANN     | AJK     | AR  | AR  | Annette Island     | Annette Island Airport            |
| AQT      | ASOS   | FAA    | 7/23/1998  | AQT     | AFG     | AR  | AR  | Nuiqsut            | Nuiqsut Airport                   |
| AWI      | ASOS   | FAA    | 9/15/1998  | AWI     | AFG     | AR  | AR  | Wainwright         | Wainwright Airport                |
| BET      | ASOS   | NWS    | 11/1/1998  | BET     | AFC     | AR  | AR  | Bethel             | Bethel Airport                    |
| BIG      | ASOS   | FAA    | 12/15/1997 | BIG     | AFG     | AR  | AR  | Delta Junction/Ft. | Allen AAF (Ft. Greely)            |
| BLAIR    | ASOS   | USAF   | 9/29/1998  | BLAIR   | AFG     | AR  | AR  | Oklahoma           | R2202-Military Operations Area    |
| BRW      | ASOS   | NWS    | 6/1/1998   | BRW     | AFG     | AR  | AR  | Barrow             | Wiley Post - Will Rogers Memorial |
| BTT      | ASOS   | FAA    | 11/19/1999 | BTT     | AFG     | AR  | AR  | Bettles            | Bettles Airport                   |
| CDB      | ASOS   | NWS    | 7/1/1998   | CDB     | AFC     | AR  | AR  | Cold Bay           | Cold Bay Airport                  |
| CDV      | ASOS   | FAA    | 12/13/1999 | CDV     | AFC     | AR  | AR  | Cordova            | Merle K. (Mudhole) Smith Airport  |
| DEE      | ASOS   | FAA    | 7/27/1998  | DEE     | AFG     | AR  | AR  | Deering            | Deering - New Airport             |
| EAA      | ASOS   | FAA    | 2/15/1998  | EAA     | AFG     | AR  | AR  | Eagle              | Eagle Airport                     |
| EIELS    | ASOS   | USAF   | 11/18/1997 | EIELS   | AFG     | AR  | AR  | Fairbanks          | Eielson AFB                       |
| ENA      | ASOS   | FAA    | 5/10/1999  | ENA     | AFC     | AR  | AR  | Kenai              | Kenai Municipal Airport           |
| ENN      | ASOS   | NWS    | 1/1/1998   | ENN     | AFG     | AR  | AR  | Nenana             | Nenana Municipal Airport          |
| FAI      | ASOS   | NWS    | 12/1/1997  | FAI     | AFG     | AR  | AR  | Fairbanks          | Fairbanks Int'l. Airport          |
| GKN      | ASOS   | FAA    | 11/19/1999 | GKN     | AFC     | AR  | AR  | Gulkana            | Gulkana Airport                   |
| HNS      | ASOS   | FAA    | 6/5/1998   | HNS     | AJK     | AR  | AR  | Haines             | Haines Airport                    |
| HOM      | ASOS   | NWS    | 12/1/1997  | HOM     | AFC     | AR  | AR  | Homer              | Homer Airport                     |
| ILI      | ASOS   | FAA    | 12/1/1997  | ILI     | AFC     | AR  | AR  | Iliamna            | Iliamna Airport                   |
| JNU      | ASOS   | FAA    | 3/1/1998   | JNU     | AJK     | AR  | AR  | Juneau             | Juneau Int'l. Airport             |

## **Procurement Sensitive**

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                   |                                   |
|----------|---------|--------|------------|---------|---------|-----|-----|-------------------|-----------------------------------|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION          | AIRPORT NAME                      |
| KAL      | ASOS    | FAA    | 7/7/1998   | KAL     | AFG     | AR  | AR  | Kaltag            | Kaltag Airport                    |
| KTN      | ASOS    | FAA    | 12/9/1996  | KTN     | AJK     | AR  | AR  | Ketchikan         | Ketchikan Int'l. Airport          |
| KVL      | ASOS    | FAA    | 7/7/1998   | KVL     | AFG     | AR  | AR  | Kivalina          | Kivalina Airport                  |
| LHD      | ASOS    | FAA    | 1/22/1998  | LHD     | AFC     | AR  | AR  | Anchorage         | Lake Hood Airport                 |
| MCG      | ASOS    | NWS    | 7/1/1998   | MCG     | AFC     | AR  | AR  | McGrath           | McGrath Airport                   |
| MRI      | ASOS    | FAA    | 10/15/1997 | MRI     | AFC     | AR  | AR  | Anchorage         | Merrill Field                     |
| OME      | ASOS    | NWS    | 7/1/1998   | OME     | AFG     | AR  | AR  | Nome              | Nome Airport                      |
| ORT      | ASOS    | FAA    | 3/20/2000  | ORT     | AFG     | AR  | AR  | Northway          | Northway Airport                  |
| OTZ      | ASOS    | NWS    | 12/1/1997  | OTZ     | AFG     | AR  | AR  | Kotzebue          | Ralph Wien Memorial Airport       |
| PADK     | ASOS    | NAVY   | 9/4/1993   | PADK    | AFC     | AR  | AR  | Adak              | Naval Air Station                 |
| PAQ      | ASOS    | FAA    | 9/15/1997  | PAQ     | AFC     | AR  | AR  | Palmer            | Palmer Municipal Airport          |
| PASY     | ASOS    | USAF   | 1/27/1995  | PASY    | AFC     | AR  | AR  | Eareckson AFS     | Eareckson AFS                     |
| PBV      | ASOS    | FAA    | 9/18/1996  | PBV     | AFC     | AR  | AR  | St. George Island | St. George Airport                |
| POR      | ASOS    | FAA    | 10/15/1998 | POR     | AFC     | AR  | AR  | Portage Glacier   | Portage Visitor Center            |
| SCC      | ASOS    | FAA    | 6/9/1999   | SCC     | AFG     | AR  | AR  | Deadhorse         | Deadhorse Airport                 |
| SGY      | ASOS    | FAA    | 8/22/1996  | SGY     | AJK     | AR  | AR  | Skagway           | Skagway Airport                   |
| SIT      | ASOS    | FAA    | 12/1/1996  | SIT     | AJK     | AR  | AR  | Sitka             | Sitka Rocky Gutierrez Airport     |
| SNP      | ASOS    | NWS    | 1/1/1997   | SNP     | AFC     | AR  | AR  | St. Paul Island   | St. Paul Island Airport           |
| SOV      | ASOS    | FAA    | 5/2/1997   | SOV     | AFC     | AR  | AR  | Seldovia          | Seldovia Airport                  |
| SWD      | ASOS    | FAA    | 4/1/1997   | SWD     | AFC     | AR  | AR  | Seward            | Seward Airport                    |
| TAL      | ASOS    | FAA    | 11/19/1999 | TAL     | AFG     | AR  | AR  | Tanana            | Ralph M. Calhoun Memorial Airport |
| TKA      | ASOS    | NWS    | 1/1/1998   | TKA     | AFC     | AR  | AR  | Talkeetna         | Talkeetna Airport                 |
| YAK      | ASOS    | NWS    | 11/1/1997  | YAK     | AJK     | AR  | AR  | Yakutat           | Yakutat Airport                   |
| YUKON    | ASOS    | USAF   | 11/25/1997 | YUKON   | AFG     | AR  | AR  | Yukon             | R2205-Military Operations Area    |
| 2WX      | OT-ASOS | NWS    | 4/16/1998  | 2WX     | UNR     | CR  | CR  | Buffalo           | Buffalo                           |
| 8D3      | OT-ASOS | NWS    | 8/27/1998  | 8D3     | ABR     | CR  | CR  | Sisseton          | Sisseton Municipal Airport        |

## **Procurement Sensitive**

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                 |   |
|----------|---------|--------|------------|---------|---------|-----|-----|-----------------|---|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION        | AIRPORT NAME                            |
| 9V9      | OT-ASOS | NWS    | 2/5/1998   | 9V9     | FSD     | CR  | CR  | Chamberlain     | Chamberlain Municipal Airport           |
| AAO      | ASOS    | FAA    | 11/14/1995 | AAO     | ICT     | CR  | CR  | Wichita         | Colonel James Jabara Airport            |
| ABR      | ASOS    | NWS    | 11/1/1994  | ABR     | ABR     | CR  | CR  | Aberdeen        | Aberdeen Regional Airport               |
| ADG      | ASOS    | FAA    | 12/17/1997 | ADG     | DTX     | CR  | CR  | Adrian          | Lenawee County Airport                  |
| AFAC1    | ASOS    | USAF   | 8/29/1997  | BLS     | PUB     | CR  | CR  | Ellcot          | Bullseye Aux Airfield                   |
| AIA      | ASOS    | FAA    | 5/16/1996  | AIA     | CYS     | CR  | CR  | Alliance        | Alliance Municipal Airport              |
| AKO      | ASOS    | FAA    | 2/6/1996   | AKO     | BOU     | CR  | CR  | Akron           | Akron - Washington County Airport       |
| ALO      | ASOS    | NWS    | 4/1/1996   | ALO     | DMX     | CR  | CR  | Waterloo        | Waterloo Municipal Airport              |
| ALS      | ASOS    | NWS    | 9/1/1992   | ALS     | PUB     | CR  | CR  | Alamosa         | San Luis Valley Regional - Bergman      |
| AMW      | ASOS    | FAA    | 9/19/1996  | AMW     | DMX     | CR  | CR  | Ames            | Ames Municipal Airport                  |
| ANJ      | OT-ASOS | NWS    | 1/1/1997   | ANJ     | APX     | CR  | CR  | Sault Ste Marie | Sault Ste. Marie Municipal Airport      |
| APA      | ASOS    | FAA    | 6/29/1998  | APA     | BOU     | CR  | CR  | Denver          | Centennial Airport                      |
| APN      | ASOS    | NWS    | 4/1/1996   | APN     | APX     | CR  | CR  | Alpena          | Alpena County Regional Airport          |
| ARB      | ASOS    | FAA    | 11/5/1998  | ARB     | DTX     | CR  | CR  | Ann Arbor       | Ann Arbor Municipal Airport             |
| ARR      | ASOS    | FAA    | 10/8/1998  | ARR     | LOT     | CR  | CR  | Chicago/Aurora  | Aurora Municipal Airport                |
| ASE      | ASOS    | FAA    | 5/21/1998  | ASE     | GJT     | CR  | CR  | Aspen           | Aspen - Pitkin County Airport (Sardy)   |
| ASX      | ASOS    | FAA    | 10/16/1998 | ASX     | DLH     | CR  | CR  | Ashland         | John F. Kennedy Memorial Airport        |
| ATY      | ASOS    | FAA    | 4/24/1996  | ATY     | ABR     | CR  | CR  | Watertown       | Watertown Municipal Airport             |
| AUW      | ASOS    | FAA    | 9/14/2000  | AUW     | GRB     | CR  | CR  | Wausau          | Wausau Downtown Airport                 |
| AXN      | ASOS    | FAA    | 12/14/1995 | AXN     | MPX     | CR  | CR  | Alexandria      | Chandler Field                          |
| AZO      | ASOS    | FAA    | 1/15/1998  | AZO     | GRR     | CR  | CR  | Kalamazoo       | Kalamazoo - Battle Creek Int'l. Airport |
| BBW      | ASOS    | FAA    | 7/29/1999  | BBW     | LBF     | CR  | CR  | Broken Bow      | Broken Bow Municipal Airport            |
| BDE      | ASOS    | FAA    | 6/28/1995  | BDE     | FGF     | CR  | CR  | Baudette        | Baudette Int'l. Airport                 |
| BEH      | ASOS    | FAA    | 6/19/1996  | BEH     | IWX     | CR  | CR  | Benton Harbor   | Southwest Michigan Regional Airport     |
| BFF      | ASOS    | NWS    | 6/1/1995   | BFF     | CYS     | CR  | CR  | Scottsbluff     | William B. Heilig Field                 |
| BIS      | ASOS    | NWS    | 5/1/1996   | BIS     | BIS     | CR  | CR  | Bismarck        | Bismarck Municipal Airport              |

## **Procurement Sensitive**

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                    |  |
|----------|---------|--------|------------|---------|---------|-----|-----|--------------------|--|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION           | AIRPORT NAME                           |
| BIV      | ASOS    | FAA    | 6/21/1996  | BIV     | GRR     | CR  | CR  | Holland            | Tulip City Airport                     |
| BMG      | ASOS    | FAA    | 3/12/1998  | BMG     | IND     | CR  | CR  | Bloomington        | Monroe County Airport                  |
| BPI      | ASOS    | FAA    | 2/26/1998  | BPI     | RIW     | CR  | CR  | Big Piney          | Big Piney - Marbleton Airport          |
| BRD      | ASOS    | FAA    | 10/24/1995 | BRD     | DLH     | CR  | CR  | Brainerd           | Brainerd - Crow Wing County Regional   |
| BRL      | ASOS    | FAA    | 11/21/1996 | BRL     | DVN     | CR  | CR  | Burlington         | Burlington Regional Airport            |
| BTL      | ASOS    | FAA    | 2/12/1998  | BTL     | GRR     | CR  | CR  | Battle Creek       | W. K. Kellogg Airport                  |
| BWG      | ASOS    | FAA    | 2/6/1996   | BWG     | LMK     | CR  | CR  | Bowling Green      | Bowling Green - Warren County Regional |
| BYG      | ASOS    | FAA    | 7/30/1998  | BYG     | RIW     | CR  | CR  | Buffalo            | Johnson County Airport                 |
| CAG      | ASOS    | FAA    | 8/15/1996  | CAG     | GJT     | CR  | CR  | Craig              | Craig - Moffat Airport                 |
| CDJ      | OT-ASOS | NWS    | 5/21/1998  | CDJ     | EAX     | CR  | CR  | Chillicothe        | Chillicothe Agri-Science Center        |
| CDR      | ASOS    | FAA    | 8/30/2000  | CDR     | CYS     | CR  | CR  | Chadron            | Chadron Municipal Airport              |
| CEZ      | ASOS    | FAA    | 5/23/1996  | CEZ     | GJT     | CR  | CR  | Cortez             | Cortez Municipal Airport               |
| CFV      | ASOS    | FAA    | 4/17/1996  | CFV     | ICT     | CR  | CR  | Coffeyville        | Coffeyville Municipal Airport          |
| CGI      | ASOS    | FAA    | 3/5/1997   | CGI     | PAH     | CR  | CR  | Cape Girardeau     | Cape Girardeau Regional Airport        |
| CID      | ASOS    | FAA    | 4/24/1996  | CID     | DVN     | CR  | CR  | Cedar Rapids       | The Eastern Iowa Airport               |
| CMI      | ASOS    | FAA    | 4/24/1997  | CMI     | ILX     | CR  | CR  | Champaign/Urbana   | Univ. of Illinois - Willard Airport    |
| CMX      | ASOS    | FAA    | 9/14/2000  | CMX     | MQT     | CR  | CR  | Hancock            | Houghton County Memorial Airport       |
| CNK      | ASOS    | NWS    | 9/1/1992   | CNK     | TOP     | CR  | CR  | Concordia          | Blosser Municipal Airport              |
| CNU      | ASOS    | FAA    | 5/16/1996  | CNU     | ICT     | CR  | CR  | Chanute            | Chanute Martin Johnson Airport         |
| COS      | ASOS    | NWS    | 11/1/1992  | COS     | PUB     | CR  | CR  | Colorado Springs   | City of Colorado Springs Municipal     |
| COU      | ASOS    | NWS    | 9/1/1995   | COU     | LSX     | CR  | CR  | Columbia           | Columbia Regional Airport              |
| CPR      | ASOS    | NWS    | 4/1/1996   | CPR     | RIW     | CR  | CR  | Casper             | Natrona County Int'l. Airport          |
| CPS      | ASOS    | FAA    | 5/29/1997  | CPS     | LSX     | CR  | CR  | Cahokia/St. Louis  | St. Louis Downtown Airport             |
| CUT      | OT-ASOS | NWS    | 4/9/1999   | CUT     | UNR     | CR  | CR  | Custer             | Custer Airport                         |
| CYS      | ASOS    | NWS    | 11/1/1995  | CYS     | CYS     | CR  | CR  | Cheyenne           | Cheyenne Airport                       |
| D07      | OT-ASOS | NWS    | 5/21/1998  | D07     | UNR     | CR  | CR  | Faith South Dakota | Faith Airport                          |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |        |        | COMMISSION |         |         |     |     |                      |                                     |
|----------|--------|--------|------------|---------|---------|-----|-----|----------------------|-------------------------------------|
| EQUIP_ID | SYSTEM | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION             | AIRPORT NAME                        |
| DBQ      | ASOS   | NWS    | 9/1/1995   | DBQ     | DVN     | CR  | CR  | Dubuque              | Dubuque Regional Airport            |
| DDC      | ASOS   | NWS    | 9/1/1992   | DDC     | DDC     | CR  | CR  | Dodge City           | Dodge City Regional Airport         |
| DEC      | ASOS   | FAA    | 11/29/2000 | DEC     | ILX     | CR  | CR  | Decatur              | Decatur Airport                     |
| DEN      | ASOS   | NWS    | 2/1/1994   | DEN     | BOU     | CR  | CR  | Denver               | Denver Int'l. Airport               |
| DET      | ASOS   | FAA    | 10/19/2000 | DET     | DTX     | CR  | CR  | Detroit              | Detroit City Airport                |
| DGW      | ASOS   | FAA    | 5/28/1998  | DGW     | CYS     | CR  | CR  | Douglas              | Converse County Airport             |
| DIK      | ASOS   | FAA    | 6/21/2001  | DIK     | BIS     | CR  | CR  | Dickinson            | Dickinson Municipal Airport         |
| DLH      | ASOS   | NWS    | 4/1/1996   | DLH     | DLH     | CR  | CR  | Duluth               | Duluth Int'l. Airport               |
| DMO      | ASOS   | FAA    | 10/24/1995 | DMO     | EAX     | CR  | CR  | Sedalia              | Sedalia Memorial Airport            |
| DPA      | ASOS   | FAA    | 4/24/1997  | DPA     | LOT     | CR  | CR  | Chicago/West Chicago | Dupage Airport                      |
| DRO      | ASOS   | FAA    | 5/23/1996  | DRO     | GJT     | CR  | CR  | Durango              | Durango - La Plata County Airport   |
| DSM      | ASOS   | NWS    | 12/1/1995  | DSM     | DMX     | CR  | CR  | Des Moines           | Des Moines Int'l. Airport           |
| DTW      | ASOS   | NWS    | 7/1/1995   | DTW     | DTX     | CR  | CR  | Detroit              | Detroit Metropolitan - Wayne County |
| DVN      | ASOS   | FAA    | 4/17/1996  | DVN     | DVN     | CR  | CR  | Davenport            | Davenport Municipal Airport         |
| EAU      | ASOS   | FAA    | 8/24/2000  | EAU     | MPX     | CR  | CR  | Eau Claire           | Chippewa Valley Regional Airport    |
| EEO      | ASOS   | FAA    | 2/27/1997  | EEO     | GJT     | CR  | CR  | Meeker               | Meeker Airport                      |
| EMP      | ASOS   | FAA    | 2/15/1996  | EMP     | TOP     | CR  | CR  | Emporia              | Emporia Municipal Airport           |
| ENW      | ASOS   | FAA    | 10/9/1997  | ENW     | MKX     | CR  | CR  | Kenosha              | Kenosha Regional Airport            |
| EST      | ASOS   | FAA    | 12/14/1995 | EST     | DMX     | CR  | CR  | Estherville          | Estherville Municipal Airport       |
| EVV      | ASOS   | NWS    | 2/1/1996   | EVV     | PAH     | CR  | CR  | Evansville           | Evansville Regional Airport         |
| EYE      | ASOS   | FAA    | 2/15/1996  | EYE     | IND     | CR  | CR  | Indianapolis         | Eagle Creek Airpark                 |
| FAR      | ASOS   | NWS    | 11/1/1995  | FAR     | FGF     | CR  | CR  | Fargo                | Hector Int'l. Airport               |
| FCM      | ASOS   | FAA    | 10/2/1997  | FCM     | MPX     | CR  | CR  | Minneapolis          | Flying Cloud Airport                |
| FFT      | ASOS   | FAA    | 12/14/1995 | FFT     | LMK     | CR  | CR  | Frankfort            | Capital City Airport                |
| FLD      | ASOS   | FAA    | 7/29/1996  | FLD     | MKX     | CR  | CR  | Fond Du Lac          | Fond Du Lac County Airport          |
| FNB      | ASOS   | FAA    | 8/30/2000  | FNB     | OAX     | CR  | CR  | Falls City           | Brenner Field                       |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                |                                     |
|----------|---------|--------|------------|---------|---------|-----|-----|----------------|-------------------------------------|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION       | AIRPORT NAME                        |
| FNT      | ASOS    | NWS    | 6/1/1995   | FNT     | DTX     | CR  | CR  | Flint          | Bishop Int'l. Airport               |
| FOE      | ASOS    | FAA    | 11/19/1997 | FOE     | TOP     | CR  | CR  | Topeka         | Forbes Field                        |
| FRI      | ASOS    | USAF   | 9/25/1997  | KS.A1   | TOP     | CR  | CR  | Ft. Riley      | Ft. Riley                           |
| FSD      | ASOS    | NWS    | 4/1/1996   | FSD     | FSD     | CR  | CR  | Sioux Falls    | Joe Foss Field                      |
| FWA      | ASOS    | NWS    | 7/1/1996   | FWA     | IWX     | CR  | CR  | Fort Wayne     | Fort Wayne Int'l. Airport           |
| GCC      | OT-ASOS | NWS    | 7/16/1998  | GCC     | UNR     | CR  | CR  | Gillette       | Gillette - Campbell County Airport  |
| GCK      | ASOS    | FAA    | 12/17/1996 | GCK     | DDC     | CR  | CR  | Garden City    | Garden City Regional Airport        |
| GEY      | ASOS    | FAA    | 10/15/1998 | GEY     | RIW     | CR  | CR  | Greybull       | South Big Horn County Airport       |
| GEZ      | ASOS    | FAA    | 6/25/1998  | GEZ     | IND     | CR  | CR  | Shelbyville    | Shelbyville Municipal Airport       |
| GFK      | ASOS    | FAA    | 12/18/1997 | GFK     | FGF     | CR  | CR  | Grand Forks    | Grand Forks Int'l. Airport          |
| GJT      | ASOS    | NWS    | 4/1/1996   | GJT     | GJT     | CR  | CR  | Grand Junction | Walker Field                        |
| GLD      | ASOS    | NWS    | 9/1/1992   | GLD     | GLD     | CR  | CR  | Goodland       | Goodland Municipal Airport (Renner) |
| GLR      | ASOS    | FAA    | 3/26/1998  | GLR     | APX     | CR  | CR  | Gaylord        | Otsego County Airport               |
| GNA      | OT-ASOS | NWS    | 7/30/1998  | GNA     | DLH     | CR  | CR  | Grand Marais   | The Bay of Grand Marais             |
| GRB      | ASOS    | NWS    | 7/1/1996   | GRB     | GRB     | CR  | CR  | Ashwaubenon    | Austin Straubel Int'l. Airport      |
| GRI      | ASOS    | NWS    | 10/1/1992  | GRI     | GID     | CR  | CR  | Grand Island   | Central Nebraska Regional Airport   |
| GRR      | ASOS    | NWS    | 8/1/1995   | GRR     | GRR     | CR  | CR  | Grand Rapids   | Gerald R. Ford Int'l. Airport       |
| GSH      | ASOS    | FAA    | 9/26/1996  | GSH     | IWX     | CR  | CR  | Goshen         | Goshen Municipal Airport            |
| GVW      | ASOS    | FAA    | 8/28/1997  | GVW     | EAX     | CR  | CR  | Kansas City    | Richards - Gebaur Memorial Airport  |
| HEI      | ASOS    | FAA    | 3/13/1996  | HEI     | BIS     | CR  | CR  | Hettinger      | Hettinger Municipal Airport         |
| HIB      | ASOS    | FAA    | 8/24/2000  | HIB     | DLH     | CR  | CR  | Hibbing        | Chisholm - Hibbing Airport          |
| HLC      | ASOS    | FAA    | 5/16/1996  | HLC     | GLD     | CR  | CR  | Hill City      | Hill City Municipal Airport         |
| HON      | ASOS    | NWS    | 11/1/1996  | HON     | FSD     | CR  | CR  | Huron          | Huron Regional Airport              |
| HSI      | ASOS    | FAA    | 5/30/1995  | HSI     | GID     | CR  | CR  | Hastings       | Hastings Municipal Airport          |
| HTL      | ASOS    | NWS    | 4/1/1996   | HTL     | APX     | CR  | CR  | Houghton Lake  | Roscommon County Airport            |
| HUF      | ASOS    | FAA    | 3/5/1998   | HUF     | IND     | CR  | CR  | Terre Haute    | Terre Haute Int'l Hulman Field      |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                         |   |
|----------|---------|--------|------------|---------|---------|-----|-----|-------------------------|---|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION                | AIRPORT NAME                            |
| HUT      | ASOS    | FAA    | 6/20/1996  | HUT     | ICT     | CR  | CR  | Hutchinson              | Hutchinson Municipal Airport            |
| HYR      | ASOS    | FAA    | 11/14/1995 | HYR     | DLH     | CR  | CR  | Hayward                 | Sawyer County Airport                   |
| ICT      | ASOS    | NWS    | 11/1/1992  | ICT     | ICT     | CR  | CR  | Wichita                 | Wichita Mid-Continent Airport           |
| IEN      | ASOS    | FAA    | 6/11/1997  | IEN     | UNR     | CR  | CR  | Pine Ridge              | Pine Ridge Airport                      |
| IML      | ASOS    | FAA    | 6/29/2000  | IML     | LBF     | CR  | CR  | Imperial                | Imperial Municipal Airport              |
| IMT      | ASOS    | FAA    | 10/10/1996 | IMT     | MQT     | CR  | CR  | Iron Mountain/Kingsford | Ford Airport                            |
| IND      | ASOS    | NWS    | 1/1/1996   | IND     | IND     | CR  | CR  | Indianapolis            | Indianapolis Int'l. Airport             |
| INL      | ASOS    | NWS    | 11/1/1996  | INL     | DLH     | CR  | CR  | International Falls     | Falls Int'l. Airport                    |
| IOW      | ASOS    | FAA    | 3/1/1995   | IOW     | DVN     | CR  | CR  | Iowa City               | Iowa City Municipal Airport             |
| IRK      | OT-ASOS | NWS    | 6/11/1998  | IRK     | EAX     | CR  | CR  | Kirksville              | Kirksville Regional Airport             |
| ISN      | ASOS    | NWS    | 4/1/1996   | ISN     | BIS     | CR  | CR  | Williston               | Sloulin Field Int'l. Airport            |
| ISW      | ASOS    | FAA    | 11/14/1995 | ISW     | GRB     | CR  | CR  | Wisconsin Rapids        | South Wood County Airport (Alexander)   |
| ITR      | ASOS    | FAA    | 4/10/1997  | ITR     | GLD     | CR  | CR  | Burlington              | Kit Carson County Airport               |
| IXD      | ASOS    | FAA    | 4/10/1997  | IXD     | EAX     | CR  | CR  | Olathe                  | New Century Aircenter                   |
| JEF      | ASOS    | FAA    | 4/10/1997  | JEF     | LSX     | CR  | CR  | Jefferson City          | Jefferson City Memorial Airport         |
| JKL      | ASOS    | NWS    | 12/1/1995  | JKL     | JKL     | CR  | CR  | Jackson                 | Julian Carroll Airport                  |
| JLN      | ASOS    | FAA    | 2/26/1998  | JLN     | SGF     | CR  | CR  | Joplin                  | Joplin Regional Airport                 |
| JMS      | ASOS    | FAA    | 10/5/2000  | JMS     | BIS     | CR  | CR  | Jamestown               | Jamestown Municipal Airport             |
| JXN      | ASOS    | FAA    | 10/12/2000 | JXN     | GRR     | CR  | CR  | Jackson                 | Jackson County Airport (Reynolds Field) |
| LAA      | ASOS    | FAA    | 5/18/1995  | LAA     | PUB     | CR  | CR  | Lamar                   | Lamar Municipal Airport                 |
| LAF      | ASOS    | FAA    | 1/15/1998  | LAF     | IND     | CR  | CR  | Lafayette               | Purdue Univ. Airport                    |
| LAN      | ASOS    | NWS    | 6/1/1996   | LAN     | GRR     | CR  | CR  | Lansing                 | Capital City Airport                    |
| LAR      | ASOS    | FAA    | 9/28/2000  | LAR     | CYS     | CR  | CR  | Laramie                 | Laramie Regional Airport                |
| LBF      | ASOS    | NWS    | 2/1/1996   | LBF     | LBF     | CR  | CR  | North Platte            | North Platte Regional Airport - Lee     |
| LEX      | ASOS    | NWS    | 3/1/1996   | LEX     | LMK     | CR  | CR  | Lexington               | Blue Grass Airport                      |
| LHX      | ASOS    | FAA    | 2/6/1996   | LHX     | PUB     | CR  | CR  | La Junta                | La Junta Municipal Airport              |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                        |   |
|----------|---------|--------|------------|---------|---------|-----|-----|------------------------|---|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION               | AIRPORT NAME                            |
| LIC      | ASOS    | NWS    | 12/14/1995 | LIC     | BOU     | CR  | CR  | Limon                  | Limon Municipal Airport                 |
| LND      | OT-ASOS | NWS    | 12/1/1996  | LND     | RIW     | CR  | CR  | Lander                 | Hunt Field                              |
| LNK      | ASOS    | NWS    | 11/1/1992  | LNK     | OAX     | CR  | CR  | Lincoln                | Lincoln Municipal Airport               |
| LNR      | ASOS    | FAA    | 10/19/2000 | LNR     | MKX     | CR  | CR  | Lone Rock              | Tri-County Regional Airport             |
| LOU      | ASOS    | FAA    | 9/6/2000   | LOU     | LMK     | CR  | CR  | Louisville             | Bowman Field                            |
| LOZ      | ASOS    | FAA    | 9/18/1996  | LOZ     | JKL     | CR  | CR  | London                 | London - Corbin Airport (Magee Field)   |
| LSE      | ASOS    | FAA    | 10/5/2000  | LSE     | ARX     | CR  | CR  | La Crosse              | La Crosse Municipal Airport             |
| LWC      | ASOS    | FAA    | 4/17/1996  | LWC     | TOP     | CR  | CR  | Lawrence               | Lawrence Municipal Airport              |
| LWD      | OT-ASOS | NWS    | 9/1/1997   | LWD     | DMX     | CR  | CR  | Lamoni                 | Lamoni Airport                          |
| LWV      | ASOS    | FAA    | 9/18/1996  | LWV     | ILX     | CR  | CR  | Lawrenceville          | Lawrenceville - Vincennes Int'l.        |
| LXT      | ASOS    | FAA    |            | LXT     | EAX     | CR  | CR  | Lee's Summit           | Lee's Summit Municipal Airport          |
| LXV      | OT-ASOS | NWS    | 7/30/1998  | LXV     | PUB     | CR  | CR  | Leadville              | Lake County Airport                     |
| MBG      | OT-ASOS | NWS    | 9/1/1997   | MBG     | ABR     | CR  | CR  | Mobridge               | Mobridge Municipal Airport              |
| MBS      | ASOS    | FAA    | 9/10/1998  | MBS     | DTX     | CR  | CR  | Saginaw                | MBS Int'l. Airport                      |
| MCI      | ASOS    | NWS    | 7/1/1995   | MCI     | EAX     | CR  | CR  | Kansas City            | Kansas City Int'l. Airport              |
| MCK      | ASOS    | FAA    | 12/4/1996  | MCK     | GLD     | CR  | CR  | Mc Cook                | Mc Cook Municipal Airport               |
| MCW      | ASOS    | FAA    | 8/17/2000  | MCW     | DMX     | CR  | CR  | Mason City             | Mason City Municipal Airport            |
| MDH      | ASOS    | FAA    | 11/20/1997 | MDH     | PAH     | CR  | CR  | Carbondale/Murphysboro | Southern Illinois Airport               |
| MDW      | ASOS    | FAA    | 4/10/1997  | MDW     | LOT     | CR  | CR  | Chicago                | Chicago Midway Airport                  |
| MFI      | ASOS    | FAA    | 10/24/1995 | MFI     | GRB     | CR  | CR  | Marshfield             | Marshfield Municipal Airport            |
| MHE      | ASOS    | FAA    | 9/1/1999   | MHE     | FSD     | CR  | CR  | Mitchell               | Mitchell Municipal Airport              |
| MHK      | ASOS    | FAA    | 2/15/1996  | MHK     | TOP     | CR  | CR  | Manhattan              | Manhattan Regional Airport              |
| MIC      | ASOS    | FAA    | 9/11/1997  | MIC     | MPX     | CR  | CR  | Minneapolis            | Crystal Airport                         |
| MIE      | ASOS    | FAA    | 4/29/1999  | MIE     | IND     | CR  | CR  | Muncie                 | Delaware County Airport (Johnson Field) |
| MIW      | ASOS    | FAA    | 9/4/1996   | MIW     | DMX     | CR  | CR  | Marshalltown           | Marshalltown Municipal Airport          |
| MKC      | ASOS    | FAA    | 11/13/1997 | MKC     | EAX     | CR  | CR  | Kansas City            | Kansas City Downtown Airport            |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                    |                                      |
|----------|---------|--------|------------|---------|---------|-----|-----|--------------------|--------------------------------------|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION           | AIRPORT NAME                         |
| MKE      | ASOS    | NWS    | 7/1/1995   | MKE     | MKX     | CR  | CR  | Milwaukee          | General Mitchell Int'l. Airport      |
| MKG      | ASOS    | NWS    | 5/1/1996   | MKG     | GRR     | CR  | CR  | Muskegon           | Muskegon County Airport              |
| MLI      | ASOS    | NWS    | 7/1/1995   | MLI     | DVN     | CR  | CR  | Moline             | Quad City Int'l. Airport             |
| MOT      | ASOS    | FAA    | 7/26/2001  | MOT     | BIS     | CR  | CR  | Minot              | Minot International Airport          |
| MSN      | ASOS    | NWS    | 4/1/1996   | MSN     | MKX     | CR  | CR  | Madison            | Dane County Regional Airport (Truax) |
| MSP      | ASOS    | NWS    | 6/1/1996   | MSP     | MPX     | CR  | CR  | Minneapolis        | Minneapolis-St. Paul                 |
| MTJ      | ASOS    | FAA    | 11/30/1993 | MTJ     | GJT     | CR  | CR  | Montrose           | Montrose Regional Airport            |
| MTO      | ASOS    | FAA    | 12/4/1997  | MTO     | ILX     | CR  | CR  | Mattoon/Charleston | Coles County Memorial Airport        |
| N60      | OT-ASOS | NWS    | 5/21/1998  | N60     | BIS     | CR  | CR  | Garrison           | Garrison                             |
| ODX      | ASOS    | FAA    | 8/30/2000  | ODX     | GID     | CR  | CR  | Ord                | Evelyn Sharp Field                   |
| OFK      | ASOS    | NWS    | 4/1/1996   | OFK     | OAX     | CR  | CR  | Norfolk            | Karl Stefan Memorial Airport         |
| OJC      | ASOS    | FAA    | 6/20/1996  | OJC     | EAX     | CR  | CR  | Olathe             | Johnson County Executive Airport     |
| OMA      | ASOS    | FAA    | 2/22/1996  | OMA     | OAX     | CR  | CR  | Omaha              | Eppley Airfield                      |
| ORD      | ASOS    | NWS    | 2/1/1996   | ORD     | LOT     | CR  | CR  | Chicago            | Chicago O'Hare Int'l. Airport        |
| OSH      | ASOS    | FAA    | 4/17/1996  | OSH     | GRB     | CR  | CR  | Oshkosh            | Wittman Regional Airport             |
| OTM      | ASOS    | FAA    | 8/17/2000  | OTM     | DMX     | CR  | CR  | Ottumwa            | Ottumwa Industrial Airport           |
| OVS      | ASOS    | FAA    | 1/21/1999  | OVS     | ARX     | CR  | CR  | Boscobel           | Boscobel Airport                     |
| P28      | OT-ASOS | NWS    | 2/5/1998   | P28     | DDC     | CR  | CR  | Medicine Lodge     | Medicine Lodge                       |
| P58      | OT-ASOS | NWS    | 6/24/1999  | P58     | DTX     | CR  | CR  | Port Hope          | Port Hope                            |
| P59      | OT-ASOS | NWS    | 7/30/1998  | P59     | MQT     | CR  | CR  | Copper Harbor      | Copper Harbor                        |
| P60      | OT-ASOS | NWS    | 8/13/1998  | P60     | RIW     | CR  | CR  | Yellowstone Lake   | Yellowstone Lake Airport             |
| P75      | OT-ASOS | NWS    | 7/30/1998  | P75     | MQT     | CR  | CR  | Manistique         | Manistique                           |
| PAH      | ASOS    | NWS    | 8/1/1995   | PAH     | PAH     | CR  | CR  | Paducah            | Barkley Regional Airport             |
| PHP      | OT-ASOS | NWS    | 6/26/1998  | PHP     | UNR     | CR  | CR  | Philip             | Philip Airport                       |
| PIA      | ASOS    | NWS    | 10/1/1995  | PIA     | ILX     | CR  | CR  | Peoria             | Greater Peoria Regional Airport      |
| PIR      | ASOS    | FAA    | 9/7/2000   | PIR     | ABR     | CR  | CR  | Pierre             | Pierre Regional Airport              |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                  |  |
|----------|---------|--------|------------|---------|---------|-----|-----|------------------|--|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION         | AIRPORT NAME                           |
| PKD      | ASOS    | FAA    | 6/28/1995  | PKD     | FGF     | CR  | CR  | Park Rapids      | Park Rapids Municipal Airport          |
| PLN      | ASOS    | FAA    | 8/24/2000  | PLN     | APX     | CR  | CR  | Pellston         | Pellston Regional Airport of Emmet     |
| POF      | OT-ASOS | NWS    | 11/20/1997 | POF     | PAH     | CR  | CR  | Poplar Bluff     | Poplar Bluff Municipal Airport         |
| PPF      | ASOS    | FAA    | 5/16/1996  | PPF     | ICT     | CR  | CR  | Parsons          | Tri-City Airport                       |
| PTK      | ASOS    | FAA    | 8/20/1998  | PTK     | DTX     | CR  | CR  | Pontiac          | Oakland County Int'l. Airport          |
| PUB      | ASOS    | NWS    | 10/1/1992  | PUB     | PUB     | CR  | CR  | Pueblo           | Pueblo Memorial Airport                |
| PWK      | ASOS    | FAA    | 4/17/1996  | PWK     | LOT     | CR  | CR  | Chicago/Prospect | Palwaukee Municipal Airport            |
| RAC      | ASOS    | FAA    | 3/26/1998  | RAC     | MKX     | CR  | CR  | Racine           | John H. Batten Airport                 |
| RAP      | ASOS    | NWS    | 9/1/1995   | RAP     | UNR     | CR  | CR  | Rapid City       | Rapid City Regional Airport            |
| RFD      | ASOS    | NWS    | 7/1/1995   | RFD     | LOT     | CR  | CR  | Rockford         | Greater Rockford Airport               |
| RHI      | ASOS    | FAA    | 5/28/1998  | RHI     | GRB     | CR  | CR  | Rhinelander      | Rhinelander - Oneida County Airport    |
| RIL      | ASOS    | FAA    | 2/27/1997  | RIL     | GJT     | CR  | CR  | Rifle            | Garfield County Regional Airport       |
| RILY2    | ASOS    | USAF   | 7/21/1998  | RILY2   | TOP     | CR  | CR  | Ft Riley         | Within 100 Miles Of Fort Riley         |
| RIW      | ASOS    | NWS    | 12/1/1995  | RIW     | RIW     | CR  | CR  | Riverton         | Riverton Regional Airport              |
| RKS      | ASOS    | FAA    | 5/17/2001  | RKS     | RIW     | CR  | CR  | Rock Springs     | Rock Springs - Sweetwater County       |
| RSL      | ASOS    | FAA    | 12/14/1995 | RSL     | ICT     | CR  | CR  | Russell          | Russell Municipal Airport              |
| RST      | ASOS    | NWS    | 6/1/1996   | RST     | ARX     | CR  | CR  | Rochester        | Rochester Int'l. Airport               |
| RWF      | ASOS    | FAA    | 8/24/2000  | RWF     | MPX     | CR  | CR  | Redwood Falls    | Redwood Falls Municipal Airport        |
| RWL      | ASOS    | FAA    | 9/28/2000  | RWL     | CYS     | CR  | CR  | Rawlins          | Rawlins Municipal Airport              |
| SBM      | ASOS    | FAA    | 8/15/1996  | SBM     | MKX     | CR  | CR  | Sheboygan        | Sheboygan County Memorial Airport      |
| SBN      | ASOS    | NWS    | 7/1/1996   | SBN     | IWX     | CR  | CR  | South Bend       | South Bend Regional Airport            |
| SDF      | ASOS    | NWS    | 8/1/1994   | SDF     | LMK     | CR  | CR  | Louisville       | Louisville Int'l Standiford Field      |
| SET      | ASOS    | FAA    | 3/26/1997  | SET     | LSX     | CR  | CR  | St. Charles      | St. Charles County Smartt Airport      |
| SFD      | ASOS    | FAA    | 3/19/1997  | SFD     | UNR     | CR  | CR  | Winner           | Bob Wiley Field                        |
| SGF      | ASOS    | NWS    | 11/1/1995  | SGF     | SGF     | CR  | CR  | Springfield      | Springfield - Branson Regional Airport |
| SLN      | ASOS    | FAA    | 12/14/1995 | SLN     | ICT     | CR  | CR  | Salina           | Salina Municipal Airport               |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                        |                                    |
|----------|---------|--------|------------|---------|---------|-----|-----|------------------------|------------------------------------|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION               | AIRPORT NAME                       |
| SNY      | ASOS    | FAA    | 12/14/1995 | SNY     | CYS     | CR  | CR  | Sidney                 | Sidney Municipal Airport           |
| SPD      | OT-ASOS | NWS    | 6/25/1998  | SPD     | PUB     | CR  | CR  | Springfield            | Comanche National Grassland        |
| SPI      | ASOS    | NWS    | 12/1/1995  | SPI     | ILX     | CR  | CR  | Springfield            | Capital Airport                    |
| SPW      | ASOS    | FAA    | 9/19/1996  | SPW     | FSD     | CR  | CR  | Spencer                | Spencer Municipal Airport          |
| STC      | ASOS    | NWS    | 6/1/1995   | STC     | MPX     | CR  | CR  | St. Cloud              | St. Cloud Regional Airport         |
| STJ      | ASOS    | FAA    | 9/19/1996  | STJ     | EAX     | CR  | CR  | St. Joseph             | Rosecrans Memorial Airport         |
| STL      | ASOS    | NWS    | 6/1/1996   | STL     | LSX     | CR  | CR  | St. Louis              | Lambert - St Louis Int'l. Airport  |
| STP      | ASOS    | FAA    | 6/28/1996  | STP     | MPX     | CR  | CR  | St. Paul               | St. Paul Downtown Airport (Holman) |
| SUS      | ASOS    | FAA    | 1/15/1998  | SUS     | LSX     | CR  | CR  | St. Louis              | Spirit of St Louis Airport         |
| SUX      | ASOS    | NWS    | 6/1/1995   | SUX     | FSD     | CR  | CR  | Sioux City             | Sioux Gateway Airport              |
| TAD      | ASOS    | FAA    | 9/27/2001  | TAD     | PUB     | CR  | CR  | Trinidad               | Perry Stokes Airport               |
| TOP      | ASOS    | NWS    | 12/1/1992  | TOP     | TOP     | CR  | CR  | Topeka                 | Philip Billard Municipal Airport   |
| TOR      | ASOS    | FAA    | 8/26/1999  | TOR     | CYS     | CR  | CR  | Torrington             | Torrington Municipal Airport       |
| TQE      | ASOS    | FAA    | 5/30/1995  | TQE     | OAX     | CR  | CR  | Tekamah                | Tekamah Municipal Airport          |
| TVC      | ASOS    | FAA    | 6/11/1998  | TVC     | APX     | CR  | CR  | Traverse City          | Cherry Capital Airport             |
| UGN      | ASOS    | FAA    | 9/1/1999   | UGN     | LOT     | CR  | CR  | Waukegan               | Waukegan Regional Airport          |
| UIN      | ASOS    | FAA    | 9/6/2000   | UIN     | LSX     | CR  | CR  | Quincy                 | Quincy Municipal Airport (Baldwin) |
| UNO      | ASOS    | FAA    | 8/15/1996  | UNO     | SGF     | CR  | CR  | West Plains            | West Plains Municipal Airport      |
| VIH      | ASOS    | FAA    | 11/12/1996 | VIH     | SGF     | CR  | CR  | Rolla/Vichy            | Rolla National Airport             |
| VPZ      | ASOS    | FAA    | 11/13/1997 | VPZ     | LOT     | CR  | CR  | Valparaiso             | Porter County Municipal Airport    |
| VTN      | ASOS    | NWS    | 10/1/1995  | VTN     | LBF     | CR  | CR  | Valentine              | Miller Field Airport               |
| WLD      | ASOS    | FAA    | 12/14/1995 | WLD     | ICT     | CR  | CR  | Winfield/Arkansas City | Strother Field                     |
| WRL      | ASOS    | FAA    | 12/20/2000 | WRL     | RIW     | CR  | CR  | Worland                | Worland Municipal Airport          |
| YIP      | ASOS    | FAA    | 3/11/1999  | YIP     | DTX     | CR  | CR  | Detroit                | Willow Run Airport                 |
| 12N      | OT-ASOS | NWS    | 8/17/1998  | 12N     | PHI     | ER  | ER  | Andover                | Aeroflex-Andover Airport           |
| 1V4      | OT-ASOS | NWS    | 7/15/1998  | 1V4     | BTV     | ER  | ER  | St. Johnsbury          | St. Johnsbury                      |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                       |  |
|----------|---------|--------|------------|---------|---------|-----|-----|-----------------------|--|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION              | AIRPORT NAME                           |
| ABE      | ASOS    | NWS    | 11/1/1995  | ABE     | PHI     | ER  | ER  | Allentown             | Lehigh Valley Int'l. Airport           |
| ACK      | ASOS    | FAA    | 6/16/1997  | ACK     | BOX     | ER  | ER  | Nantucket             | Nantucket Memorial Airport             |
| ACY      | ASOS    | NWS    | 9/1/1995   | ACY     | PHI     | ER  | ER  | Atlantic City         | Atlantic City Int'l. Airport           |
| AFN      | ASOS    | FAA    | 5/24/1995  | AFN     | BOX     | ER  | ER  | Jaffrey               | Jaffrey Municipal - Silver Ranch       |
| AGC      | ASOS    | FAA    | 2/3/1999   | AGC     | PBZ     | ER  | ER  | Pittsburgh            | Allegheny County Airport               |
| AKH      | ASOS    | FAA    | 1/20/1999  | AKH     | GSP     | ER  | ER  | Gastonia              | Gastonia Municipal Airport             |
| AKQ      | OT-ASOS | NWS    | 10/16/1997 | AKQ     | AKQ     | ER  | ER  | Wakefield             | Wakefield Municipal Airport            |
| AKR      | ASOS    | FAA    | 5/19/1999  | AKR     | CLE     | ER  | ER  | Akron                 | Akron Fulton Int'l. Airport            |
| ALB      | ASOS    | NWS    | 8/1/1995   | ALB     | ALY     | ER  | ER  | Albany                | Albany Int'l. Airport                  |
| AND      | ASOS    | FAA    | 11/4/1998  | AND     | GSP     | ER  | ER  | Anderson              | Anderson County Airport                |
| AOH      | ASOS    | FAA    | 1/28/1998  | AOH     | IWX     | ER  | ER  | Lima                  | Lima - Allen County Airport            |
| AOO      | ASOS    | FAA    | 7/14/1999  | AOO     | CTP     | ER  | ER  | Altoona               | Altoona - Blair County Airport         |
| AQW      | ASOS    | FAA    | 6/15/1995  | AQW     | ALY     | ER  | ER  | North Adams           | Harriman-and-West Airport              |
| ART      | ASOS    | FAA    | 1/24/2001  | ART     | BUF     | ER  | ER  | Watertown             | Watertown Int'l. Airport               |
| AUG      | ASOS    | FAA    | 1/10/2001  | AUG     | GYX     | ER  | ER  | Augusta               | Augusta State Airport                  |
| AVL      | ASOS    | NWS    | 6/1/1996   | AVL     | GSP     | ER  | ER  | Asheville             | Asheville Regional Airport             |
| AVP      | ASOS    | NWS    | 4/1/1996   | AVP     | BGM     | ER  | ER  | Wilkes-Barre/Scranton | Wilkes-Barre - Scranton Int'l. Airport |
| BAF      | ASOS    | FAA    | 8/5/1998   | BAF     | BOX     | ER  | ER  | Westfield             | Barnes Municipal Airport               |
| BDL      | ASOS    | NWS    | 4/1/1996   | BDL     | BOX     | ER  | ER  | Windsor Locks         | Bradley Int'l. Airport                 |
| BDR      | ASOS    | NWS    | 5/1/1996   | BDR     | OKX     | ER  | ER  | Bridgeport            | Igor I. Sikorsky Memorial Airport      |
| BED      | ASOS    | FAA    | 8/19/1998  | BED     | BOX     | ER  | ER  | Bedford               | Laurence G. Hanscom Field              |
| BFD      | ASOS    | FAA    | 12/2/1996  | BFD     | CTP     | ER  | ER  | Bradford              | Bradford Regional Airport              |
| BGM      | ASOS    | NWS    | 11/1/1995  | BGM     | BGM     | ER  | ER  | Binghamton            | Binghamton Regional/Edwin A Link Field |
| BGR      | ASOS    | FAA    | 4/1/1998   | BGR     | CAR     | ER  | ER  | Bangor                | Bangor Int'l. Airport                  |
| BJJ      | ASOS    | FAA    | 12/11/1996 | BJJ     | CLE     | ER  | ER  | Wooster               | Wayne County Airport                   |
| BKL      | ASOS    | FAA    | 2/11/1998  | BKL     | CLE     | ER  | ER  | Cleveland             | Burke Lakefront Airport                |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |        |        | COMMISSION |         |         |     |     |                      |  |
|----------|--------|--------|------------|---------|---------|-----|-----|----------------------|--|
| EQUIP_ID | SYSTEM | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION             | AIRPORT NAME                           |
| BKW      | ASOS   | NWS    | 2/1/1996   | BKW     | RLX     | ER  | ER  | Beckley              | Raleigh County Memorial Airport        |
| BLF      | ASOS   | FAA    | 11/8/2000  | BLF     | RNK     | ER  | ER  | Bluefield            | Mercer County Airport                  |
| BML      | ASOS   | FAA    | 4/28/1995  | BML     | GYX     | ER  | ER  | Berlin               | Berlin Municipal Airport               |
| BOS      | ASOS   | NWS    | 4/1/1996   | BOS     | BOX     | ER  | ER  | Boston               | General Edward Lawrence Logan Int'l.   |
| BTV      | ASOS   | NWS    | 2/1/1996   | BTV     | BTV     | ER  | ER  | Burlington           | Burlington Int'l. Airport              |
| BUF      | ASOS   | NWS    | 12/1/1995  | BUF     | BUF     | ER  | ER  | Buffalo              | Buffalo Niagara Int'l. Airport         |
| BUY      | ASOS   | FAA    | 7/1/1998   | BUY     | RAH     | ER  | ER  | Burlington           | Burlington - Alamance Regional Airport |
| BVY      | ASOS   | FAA    | 12/9/1998  | BVY     | BOX     | ER  | ER  | Beverly              | Beverly Municipal Airport              |
| BWI      | ASOS   | NWS    | 4/1/1996   | BWI     | LWX     | ER  | ER  | Baltimore            | Baltimore - Washington Int'l. Airport  |
| CAE      | ASOS   | NWS    | 12/1/1995  | CAE     | CAE     | ER  | ER  | Columbia             | Columbia Metropolitan Airport          |
| CAK      | ASOS   | NWS    | 9/1/1995   | CAK     | CLE     | ER  | ER  | Akron                | Akron - Canton Regional Airport        |
| CAR      | ASOS   | NWS    | 8/1/1996   | CAR     | CAR     | ER  | ER  | Caribou              | Caribou Municipal Airport              |
| CDW      | ASOS   | FAA    | 6/2/1999   | CDW     | OKX     | ER  | ER  | Caldwell             | Essex County Airport                   |
| CEU      | ASOS   | FAA    | 3/16/2000  | CEU     | GSP     | ER  | ER  | Clemson              | Oconee County Regional Airport         |
| CHO      | ASOS   | FAA    | 11/18/1998 | CHO     | LWX     | ER  | ER  | Charlottesville      | Charlottesville - Albemarle Airport    |
| CHS      | ASOS   | NWS    | 10/1/1995  | CHS     | CHS     | ER  | ER  | Charleston           | Charleston AFB/Int'l. Airport          |
| CKB      | ASOS   | FAA    | 8/12/1998  | CKB     | RLX     | ER  | ER  | Clarksburg           | Benedum Airport                        |
| CLE      | ASOS   | NWS    | 12/1/1995  | CLE     | CLE     | ER  | ER  | Cleveland            | Cleveland - Hopkins Int'l. Airport     |
| CLT      | ASOS   | NWS    | 7/1/1998   | CLT     | GSP     | ER  | ER  | Charlotte            | Charlotte/Douglas Int'l. Airport       |
| CMH      | ASOS   | NWS    | 2/1/1996   | CMH     | ILN     | ER  | ER  | Columbus             | Port Columbus Int'l. Airport           |
| CON      | ASOS   | NWS    | 3/1/1996   | CON     | GYX     | ER  | ER  | Concord              | Concord Municipal Airport              |
| CQX      | ASOS   | FAA    | 6/14/1995  | CQX     | BOX     | ER  | ER  | Chatham              | Chatham Municipal Airport              |
| CRE      | ASOS   | FAA    | 6/16/1999  | CRE     | ILM     | ER  | ER  | North Myrtle Beach   | Grand Strand Airport                   |
| CRW      | ASOS   | NWS    | 10/1/1994  | CRW     | RLX     | ER  | ER  | Charleston           | Yeager Airport                         |
| CUB      | ASOS   | FAA    | 10/15/1998 | CUB     | CAE     | ER  | ER  | Columbia             | Columbia Owens Downtown Airport        |
| CVG      | ASOS   | NWS    | 10/1/1995  | CVG     | ILN     | ER  | CR  | Covington/Cincinnati | Cincinnati - Northern Kentucky Int'l.  |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                |   |
|----------|---------|--------|------------|---------|---------|-----|-----|----------------|---|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION       | AIRPORT NAME                            |
| CXY      | ASOS    | FAA    | 10/11/2000 | CXY     | CTP     | ER  | ER  | Harrisburg     | Capital City Airport                    |
| DAN      | ASOS    | FAA    | 8/16/2000  | DAN     | RNK     | ER  | ER  | Danville       | Danville Regional Airport               |
| DAW      | ASOS    | FAA    | 1/19/2000  | DAW     | GYX     | ER  | ER  | Rochester      | Skyhaven Airport                        |
| DAY      | ASOS    | NWS    | 11/1/1995  | DAY     | ILN     | ER  | ER  | Dayton         | James M. Cox Dayton Int'l. Airport      |
| DCA      | ASOS    | NWS    | 2/1/1998   | DCA     | LWX     | ER  | ER  | Arlington      | Ronald Regan-Washington National        |
| DDH      | ASOS    | FAA    | 12/9/1998  | DDH     | ALY     | ER  | ER  | Bennington     | Morse State Airport                     |
| DFI      | ASOS    | FAA    | 1/7/1998   | DFI     | IWX     | ER  | ER  | Defiance       | Defiance Memorial Airport               |
| DKK      | ASOS    | FAA    | 12/11/1996 | DKK     | BUF     | ER  | ER  | Dunkirk        | Chautauqua County - Dunkirk Airport     |
| DMH      | OT-ASOS | NWS    | 4/29/1998  | DMH     | LWX     | ER  | ER  | Baltimore      | Baltimore Downtown                      |
| DSV      | ASOS    | FAA    | 3/1/2000   | DSV     | BUF     | ER  | ER  | Dansville      | Dansville Municipal Airport             |
| DUJ      | ASOS    | FAA    | 6/14/2000  | DUJ     | PBZ     | ER  | ER  | Du Bois        | Du Bois - Jefferson County Airport      |
| DXR      | ASOS    | FAA    | 5/13/1998  | DXR     | OKX     | ER  | ER  | Danbury        | Danbury Municipal Airport               |
| DYL      | ASOS    | FAA    | 7/28/1999  | DYL     | PHI     | ER  | ER  | Doylestown     | Doylestown Airport                      |
| ECG      | ASOS    | FAA    | 3/25/1998  | ECG     | AKQ     | ER  | ER  | Elizabeth City | Elizabeth City CGAS/Municipal Airport   |
| EKN      | ASOS    | NWS    | 5/1/1996   | EKN     | RLX     | ER  | ER  | Elkins         | Elkins                                  |
| ELM      | ASOS    | FAA    | 12/19/1997 | ELM     | BGM     | ER  | ER  | Elmira         | Elmira - Corning Regional Airport       |
| ELZ      | ASOS    | FAA    | 2/2/2000   | ELZ     | BUF     | ER  | ER  | Wellsville     | Wellsville Municipal Airport            |
| EQY      | ASOS    | FAA    | 1/27/1999  | EQY     | GSP     | ER  | ER  | Monroe         | Monroe Airport                          |
| ERI      | ASOS    | NWS    | 10/1/1995  | ERI     | CLE     | ER  | ER  | Erie           | Erie Int'l. Airport                     |
| EWB      | ASOS    | FAA    | 3/20/1996  | EWB     | BOX     | ER  | ER  | New Bedford    | New Bedford Regional Airport            |
| EWN      | ASOS    | FAA    | 9/12/1997  | EWN     | MHX     | ER  | ER  | New Bern       | Craven County Regional Airport          |
| EWR      | ASOS    | NWS    | 7/1/1996   | EWR     | OKX     | ER  | ER  | Newark         | Newark Int'l. Airport                   |
| FAY      | ASOS    | FAA    | 4/15/1998  | FAY     | RAH     | ER  | ER  | Fayetteville   | Fayetteville Regional Airport (Grannis) |
| FDY      | ASOS    | FAA    | 8/16/2000  | FDY     | CLE     | ER  | ER  | Findlay        | Findlay Airport                         |
| FIG      | ASOS    | FAA    | 1/26/2000  | FIG     | CTP     | ER  | ER  | Clearfield     | Clearfield-Lawrence Airport             |
| FIT      | ASOS    | FAA    | 9/17/1997  | FIT     | BOX     | ER  | ER  | Fitchburg      | Fitchburg Municipal Airport             |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                   |  |
|----------|---------|--------|------------|---------|---------|-----|-----|-------------------|--|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION          | AIRPORT NAME                           |
| FLO      | ASOS    | FAA    | 4/23/1999  | FLO     | ILM     | ER  | ER  | Florence          | Florence Regional Airport              |
| FOK      | ASOS    | FAA    | 7/22/1998  | FOK     | OKX     | ER  | ER  | Westhampton Beach | The Francis S. Gabreski Airport        |
| FRG      | ASOS    | FAA    | 8/4/1999   | FRG     | OKX     | ER  | ER  | Farmingdale       | Republic Airport                       |
| FVE      | ASOS    | FAA    | 5/31/1995  | FVE     | CAR     | ER  | ER  | Frenchville       | Northern Aroostook Regional Airport    |
| FWN      | ASOS    | FAA    | 10/25/2000 | FWN     | PHI     | ER  | ER  | Sussex            | Sussex Airport                         |
| FZY      | ASOS    | FAA    | 3/20/1996  | FZY     | BUF     | ER  | ER  | Fulton            | Oswego County Airport                  |
| GED      | ASOS    | FAA    | 10/8/1997  | GED     | PHI     | ER  | ER  | Georgetown        | Sussex County Airport                  |
| GFL      | ASOS    | FAA    | 7/18/2001  | GFL     | ALY     | ER  | ER  | Glens Falls       | Floyd Bennett Memorial Airport         |
| GKJ      | ASOS    | FAA    | 1/22/1997  | GKJ     | CLE     | ER  | ER  | Meadville         | Port Meadville Airport                 |
| GMU      | ASOS    | FAA    | 4/28/1999  | GMU     | GSP     | ER  | ER  | Greenville        | Greenville Downtown Airport            |
| GNR      | OT-ASOS | NWS    | 3/4/1998   | GNR     | CAR     | ER  | ER  | Greenville        | Maine Forest Service                   |
| GON      | ASOS    | FAA    | 12/8/1999  | GON     | OKX     | ER  | ER  | Groton/New London | Groton - New London Airport            |
| GRD      | ASOS    | FAA    | 5/24/2000  | GRD     | GSP     | ER  | ER  | Greenwood         | Greenwood County Airport               |
| GSO      | ASOS    | NWS    | 10/1/1995  | GSO     | RAH     | ER  | ER  | Greensboro        | Piedmont Triad Int'l. Airport          |
| GSP      | ASOS    | NWS    | 4/1/1996   | GSP     | GSP     | ER  | ER  | Greer             | Greenville-Spartanburg Int'l. Airport  |
| HAO      | ASOS    | FAA    | 5/15/1997  | HAO     | ILN     | ER  | ER  | Hamilton          | Butler County Regional Airport         |
| HFD      | ASOS    | FAA    | 5/15/1997  | HFD     | BOX     | ER  | ER  | Hartford          | Hartford - Brainard Airport            |
| HGR      | ASOS    | FAA    | 10/1/1998  | HGR     | LWX     | ER  | ER  | Hagerstown        | Hagerstown Regional Airport (Richard)  |
| HIE      | ASOS    | FAA    | 5/24/1995  | HIE     | GYX     | ER  | ER  | Whitefield        | Mount Washington Regional Airport      |
| HKY      | ASOS    | FAA    | 9/5/1997   | HKY     | GSP     | ER  | ER  | Hickory           | Hickory Regional Airport               |
| HLG      | ASOS    | FAA    | 3/25/1998  | HLG     | PBZ     | ER  | ER  | Wheeling          | Wheeling Ohio County Airport           |
| HPN      | ASOS    | FAA    | 4/25/2001  | HPN     | OKX     | ER  | ER  | White Plains      | Westchester County Airport             |
| HSE      | ASOS    | NWS    | 7/1/1995   | HSE     | MHX     | ER  | ER  | Hatteras          | Billy Mitchell Airport                 |
| HTS      | ASOS    | NWS    | 9/1/1996   | HTS     | RLX     | ER  | ER  | Huntington        | Tri-State Airport (Milton J. Ferguson) |
| HUL      | ASOS    | FAA    | 9/13/2000  | HUL     | CAR     | ER  | ER  | Houlton           | Houlton Int'l. Airport                 |
| HVN      | ASOS    | FAA    | 11/14/2001 | HVN     | OKX     | ER  | ER  | New Haven         | Tweed - New Haven Airport              |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                |                                     |
|----------|---------|--------|------------|---------|---------|-----|-----|----------------|-------------------------------------|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION       | AIRPORT NAME                        |
| HWV      | ASOS    | FAA    | 9/29/1999  | HWV     | OKX     | ER  | ER  | Shirley        | Brookhaven Airport                  |
| HYA      | ASOS    | FAA    | 2/19/1997  | HYA     | BOX     | ER  | ER  | Hyannis        | Barnstable Municipal - Boardman     |
| HZY      | ASOS    | FAA    | 12/2/1998  | HZY     | CLE     | ER  | ER  | Ashtabula      | Ashtabula County Airport            |
| IAD      | ASOS    | NWS    | 5/1/1996   | IAD     | LWX     | ER  | ER  | Sterling       | Washington Dulles Int'l. Airport    |
| IAG      | ASOS    | FAA    | 9/26/2001  | IAG     | BUF     | ER  | ER  | Niagara Falls  | Niagara Falls International Airport |
| IGX      | ASOS    | FAA    | 7/14/1999  | IGX     | RAH     | ER  | ER  | Chapel Hill    | Horace Williams Airport             |
| IJD      | ASOS    | FAA    | 4/28/1995  | IJD     | BOX     | ER  | ER  | Willimantic    | Windham Airport                     |
| ILG      | ASOS    | NWS    | 10/1/1994  | ILG     | PHI     | ER  | ER  | Wilmington     | New Castle County Airport           |
| ILM      | ASOS    | NWS    | 11/1/1995  | ILM     | ILM     | ER  | ER  | Wilmington     | Wilmington Int'l. Airport           |
| ILN      | OT-ASOS | NWS    | 4/1/1998   | ILN     | ILN     | ER  | ER  | Wilmington     | Airborne Airpark                    |
| INT      | ASOS    | FAA    | 12/2/1998  | INT     | RAH     | ER  | ER  | Winston Salem  | Smith Reynolds Airport              |
| IPT      | ASOS    | NWS    | 9/1/1995   | IPT     | CTP     | ER  | ER  | Williamsport   | Williamsport Regional Airport       |
| ISP      | ASOS    | FAA    | 8/1/1999   | ISP     | OKX     | ER  | ER  | Islip          | Long Island MacArthur Airport       |
| IWI      | ASOS    | FAA    | 4/28/1995  | IWI     | GYX     | ER  | ER  | Wiscasset      | Wiscasset Airport                   |
| IZG      | ASOS    | FAA    | 12/6/1995  | IZG     | GYX     | ER  | ER  | Fryeburg       | Eastern Slopes Regional Airport     |
| JFK      | ASOS    | NWS    | 5/1/1996   | JFK     | OKX     | ER  | ER  | New York       | John F. Kennedy Int'l. Airport      |
| JST      | ASOS    | FAA    | 8/30/2000  | JST     | CTP     | ER  | ER  | Johnstown      | Johnstown - Cambria County Airport  |
| KNAK     | ASOS    | NAVY   | 12/22/1995 | KNAK    | LWX     | ER  | ER  | Annapolis      | US Naval Academy                    |
| KNBC     | ASOS    | NAVY   | 3/11/1995  | KNBC    | CHS     | ER  | ER  | Beaufort       | Beauford MCAS                       |
| KNBT     | ASOS    | NAVY   | 2/1/1997   | KNBT    | MHX     | ER  | ER  | Piney Island   | BT-11 Bombing Range                 |
| KNCA     | ASOS    | NAVY   | 3/11/1995  | KNCA    | MHX     | ER  | ER  | Jacksonville   | New River MCAS                      |
| KNFE     | ASOS    | NAVY   | 12/7/1995  | KNFE    | AKQ     | ER  | ER  | Fentress       | Fentress (NALF)                     |
| KNGU     | ASOS    | NAVY   | 12/1/1995  | KNGU    | AKQ     | ER  | ER  | Norfolk        | Norfolk NAS                         |
| KNHK     | ASOS    | NAVY   | 1/14/1997  | KNHK    | LWX     | ER  | ER  | Patuxent River | Patuxent River NAS (Trapnell Field) |
| KNHZ     | ASOS    | NAVY   | 2/1/1997   | KNHZ    | GYX     | ER  | ER  | Brunswick      | Brunswick NAS Airport               |
| KNIS     | ASOS    | NAVY   | 6/16/1995  | KNIS    | MHX     | ER  | ER  | Cherry Point   | Cherry Point MCAS                   |

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## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |        |        | COMMISSION |         |         |     |     |                |                                       |
|----------|--------|--------|------------|---------|---------|-----|-----|----------------|---------------------------------------|
| EQUIP_ID | SYSTEM | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION       | AIRPORT NAME                          |
| KNJM     | ASOS   | NAVY   | 3/11/1995  | KNJM    | MHX     | ER  | ER  | Swansboro      | Bogue Field (MCALF)                   |
| KNKT     | ASOS   | NAVY   | 2/10/1995  | KNKT    | MHX     | ER  | ER  | Cherry Point   | Cherry Point MCAS                     |
| KNLT     | ASOS   | NAVY   | 11/24/1993 | KNLT    | MHX     | ER  | ER  | Atlantic       |                                       |
| KNTU     | ASOS   | NAVY   | 4/24/1996  | KNTU    | AKQ     | ER  | ER  | Virginia Beach | Oceana NAS                            |
| KNUI     | ASOS   | NAVY   | 6/4/1996   | KNUI    | LWX     | ER  | ER  | St. Inigoes    | Webster Field                         |
| KNXX     | ASOS   | NAVY   | 6/16/1995  | KNXX    | PHI     | ER  | ER  | Willow Grove   | Willow Grove NAS                      |
| KNYG     | ASOS   | NAVY   | 6/16/1995  | KNYG    | LWX     | ER  | ER  | Quantico       | Quantico MCAS                         |
| LBT      | ASOS   | FAA    | 9/16/1998  | LBT     | ILM     | ER  | ER  | Lumberton      | Lumberton Municipal Airport           |
| LEB      | ASOS   | FAA    | 5/13/1998  | LEB     | GYX     | ER  | ER  | Lebanon        | Lebanon Municipal Airport             |
| LGA      | ASOS   | NWS    | 5/1/1996   | LGA     | OKX     | ER  | ER  | New York       | LaGuardia Airport                     |
| LHQ      | ASOS   | FAA    | 3/20/1996  | LHQ     | ILN     | ER  | ER  | Lancaster      | Fairfield County Airport              |
| LNS      | ASOS   | FAA    | 3/17/1999  | LNS     | CTP     | ER  | ER  | Lancaster      | Lancaster Airport                     |
| LPR      | ASOS   | FAA    | 4/25/1997  | LPR     | CLE     | ER  | ER  | Lorain/Elyria  | Lorain County Regional Airport        |
| LUK      | ASOS   | FAA    | 8/13/1997  | LUK     | ILN     | ER  | ER  | Cincinnati     | Cincinnati Municipal Airport (Lunken) |
| LWM      | ASOS   | FAA    | 5/15/1997  | LWM     | BOX     | ER  | ER  | Lawrence       | Lawrence Municipal Airport            |
| LYH      | ASOS   | NWS    | 8/1/1996   | LYH     | RNK     | ER  | ER  | Lynchburg      | Lynchburg Regional/Preston Glenn      |
| MDT      | ASOS   | FAA    | 12/1/2000  | MDT     | CTP     | ER  | ER  | Harrisburg     | Harrisburg Int'l. Airport             |
| MEB      | ASOS   | FAA    | 6/24/1998  | MEB     | RAH     | ER  | ER  | Maxton         | Laurinburg - Maxton Airport           |
| MFD      | ASOS   | NWS    | 2/1/1996   | MFD     | CLE     | ER  | ER  | Mansfield      | Mansfield Lahm Municipal Airport      |
| MGJ      | ASOS   | FAA    | 12/17/1997 | MGJ     | OKX     | ER  | ER  | Montgomery     | Orange County Airport                 |
| MGW      | ASOS   | FAA    | 1/6/1999   | MGW     | PBZ     | ER  | ER  | Morgantown     | Morgantown Municipal/Walter L. Bill   |
| MGY      | ASOS   | FAA    | 10/15/1997 | MGY     | ILN     | ER  | ER  | Dayton         | Dayton - Wright Brothers Airport      |
| MHT      | ASOS   | FAA    | 11/14/1997 | MHT     | GYX     | ER  | ER  | Manchester     | Manchester Airport                    |
| MIV      | ASOS   | FAA    | 2/17/1999  | MIV     | PHI     | ER  | ER  | Millville      | Millville Municipal Airport           |
| MLT      | ASOS   | FAA    | 9/20/1995  | MLT     | CAR     | ER  | ER  | Millinocket    | Millinocket Municipal Airport         |
| MMK      | ASOS   | FAA    | 8/4/1999   | MMK     | OKX     | ER  | ER  | Meriden        | Meriden Markham Municipal Airport     |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                  |   |
|----------|---------|--------|------------|---------|---------|-----|-----|------------------|---|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION         | AIRPORT NAME                            |
| MNN      | ASOS    | FAA    | 5/6/1998   | MNN     | CLE     | ER  | ER  | Marion           | Marion Municipal Airport                |
| MPO      | ASOS    | FAA    | 9/29/1999  | MPO     | PHI     | ER  | ER  | Mt. Pocono       | Pocono Mountains Municipal Airport      |
| MPV      | ASOS    | FAA    | 6/18/1996  | MPV     | BTV     | ER  | ER  | Barre/Montpelier | Edward F. Knapp State Airport           |
| MQE      | OT-ASOS | NWS    | 10/15/1998 | MQE     | BOX     | ER  | ER  | East Milton      | Blue Hill Observatory                   |
| MRB      | ASOS    | FAA    | 11/29/2000 | MRB     | LWX     | ER  | ER  | Martinsburg      | Eastern WV Regional - Shepherd Airport  |
| MRH      | ASOS    | FAA    | 4/26/2000  | MRH     | MHX     | ER  | ER  | Beaufort         | Michael J. Smith Field                  |
| MSS      | ASOS    | FAA    | 9/13/2000  | MSS     | BTV     | ER  | ER  | Massena          | Massena Int'l. Airport (Richards Field) |
| MTP      | OT-ASOS | NWS    | 9/1/1998   | MTP     | OKX     | ER  | ER  | Montauk          | Montauk Airport                         |
| MVL      | ASOS    | FAA    | 11/15/1995 | MVL     | BTV     | ER  | ER  | Morrisville      | Morrisville - Stowe State Airport       |
| MVY      | ASOS    | FAA    | 6/17/1997  | MVY     | BOX     | ER  | ER  | Vineyard Haven   | Marthas Vineyard Airport                |
| NEXC     | ASOS    | NAVY   | 7/18/1992  | NEXC    | CHS     | ER  | ER  | Charleston       | Navelexcen                              |
| NYC      | OT-ASOS | NWS    | 11/1/1995  | NY.A1   | OKX     | ER  | ER  | New York City    | Central Park                            |
| OFP      | ASOS    | FAA    | 3/15/1995  | OFP     | AKQ     | ER  | ER  | Richmond/Ashland | Hanover County Municipal Airport        |
| OGB      | ASOS    | FAA    | 3/20/1997  | OGB     | CAE     | ER  | ER  | Orangeburg       | Orangeburg Municipal Airport            |
| ORE      | ASOS    | FAA    | 5/24/1995  | ORE     | BOX     | ER  | ER  | Orange           | Orange Municipal Airport                |
| ORF      | ASOS    | NWS    | 3/1/1996   | ORF     | AKQ     | ER  | ER  | Norfolk          | Norfolk Int'l. Airport                  |
| ORH      | ASOS    | NWS    | 7/1/1995   | ORH     | BOX     | ER  | ER  | Worcester        | Worcester Regional Airport              |
| OSU      | ASOS    | FAA    | 10/8/1997  | OSU     | ILN     | ER  | ER  | Columbus         | Ohio State Univ. Airport                |
| OWD      | ASOS    | FAA    | 6/3/1998   | OWD     | BOX     | ER  | ER  | Norwood          | Norwood Memorial Airport                |
| OXB      | ASOS    | FAA    | 9/1/1999   | OXB     | AKQ     | ER  | ER  | Ocean City       | Ocean City Municipal Airport            |
| PEO      | ASOS    | FAA    | 12/10/1997 | PEO     | BGM     | ER  | ER  | Penn Yan         | Penn Yan Airport                        |
| PHD      | ASOS    | FAA    | 1/28/1998  | PHD     | PBZ     | ER  | ER  | New Philadelphia | Harry Clever Field                      |
| PHF      | ASOS    | FAA    | 12/13/2000 | PHF     | AKQ     | ER  | ER  | Newport News     | Newport News - Williamsburg Int'l.      |
| PHL      | ASOS    | NWS    | 12/1/1995  | PHL     | PHI     | ER  | ER  | Philadelphia     | Philadelphia Int'l. Airport             |
| PIT      | ASOS    | NWS    | 7/1/1996   | PIT     | PBZ     | ER  | ER  | Pittsburgh       | Pittsburgh Int'l. Airport               |
| PKB      | ASOS    | FAA    | 11/8/2000  | PKB     | RLX     | ER  | ER  | Parkersburg      | Wood County Airport (Gill Robb Wilson)  |

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## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |        |        | COMMISSION |         |         |     |     |                |                                       |
|----------|--------|--------|------------|---------|---------|-----|-----|----------------|---------------------------------------|
| EQUIP_ID | SYSTEM | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION       | AIRPORT NAME                          |
| PLB      | ASOS   | FAA    | 7/1/1998   | PLB     | BTV     | ER  | ER  | Plattsburgh    | Clinton County Airport                |
| PNE      | ASOS   | NWS    | 5/1/1996   | PNE     | PHI     | ER  | ER  | Philadelphia   | Northeast Philadelphia Airport        |
| POU      | ASOS   | FAA    | 9/27/2000  | POU     | ALY     | ER  | ER  | Poughkeepsie   | Dutchess County Airport               |
| PSF      | ASOS   | FAA    | 1/20/1999  | PSF     | ALY     | ER  | ER  | Pittsfield     | Pittsfield Municipal Airport          |
| PTW      | ASOS   | FAA    | 3/3/1999   | PTW     | PHI     | ER  | ER  | Pottstown      | Pottstown Limerick Airport            |
| PVD      | ASOS   | NWS    | 9/1/1995   | PVD     | BOX     | ER  | ER  | Providence     | Theodore Francis Green State Airport  |
| PWM      | ASOS   | NWS    | 8/1/1994   | PWM     | GYX     | ER  | ER  | Portland       | Portland Int'l. Jetport               |
| PYM      | ASOS   | FAA    | 5/12/1995  | PYM     | BOX     | ER  | ER  | Plymouth       | Plymouth Municipal Airport            |
| RDG      | ASOS   | FAA    | 2/17/1999  | RDG     | PHI     | ER  | ER  | Reading        | Reading Regional Airport (Carl A.)    |
| RDU      | ASOS   | NWS    | 2/1/1996   | RDU     | RAH     | ER  | ER  | Raleigh/Durham | Raleigh - Durham Int'l. Airport       |
| RIC      | ASOS   | NWS    | 10/1/1995  | RIC     | AKQ     | ER  | ER  | Richmond       | Richmond Int'l. Airport               |
| ROA      | ASOS   | NWS    | 5/1/1996   | ROA     | RNK     | ER  | ER  | Roanoke        | Roanoke Regional Airport (Woodrum)    |
| ROC      | ASOS   | NWS    | 7/1/1996   | ROC     | BUF     | ER  | ER  | Rochester      | Greater Rochester Int'l. Airport      |
| RWI      | ASOS   | FAA    | 10/11/2000 | RWI     | RAH     | ER  | ER  | Rocky Mount    | Rocky Mount - Wilson Regional Airport |
| RZZ      | ASOS   | FAA    | 5/13/1998  | RZZ     | RAH     | ER  | ER  | Roanoke Rapids | Halifax County Airport                |
| SBY      | ASOS   | FAA    | 5/9/2001   | SBY     | AKQ     | ER  | ER  | Salisbury      | Salisbury - Ocean City - Wicomico     |
| SEG      | ASOS   | FAA    | 8/13/1997  | SEG     | CTP     | ER  | ER  | Selinsgrove    | Penn Valley Airport                   |
| SLK      | ASOS   | FAA    | 6/10/1998  | SLK     | BTV     | ER  | ER  | Saranac Lake   | Adirondack Regional Airport           |
| SMQ      | ASOS   | FAA    | 6/2/1999   | SMQ     | PHI     | ER  | ER  | Somerville     | Somerset Airport                      |
| SYR      | ASOS   | NWS    | 11/1/1993  | SYR     | BGM     | ER  | ER  | Syracuse       | Syracuse Hancock Int'l. Airport       |
| TAN      | ASOS   | FAA    | 11/5/1997  | TAN     | BOX     | ER  | ER  | Taunton        | Taunton Municipal Airport             |
| TDZ      | ASOS   | FAA    | 12/17/1997 | TDZ     | CLE     | ER  | ER  | Toledo         | Metcalf Field                         |
| TEB      | ASOS   | NWS    | 1/1/1997   | TEB     | OKX     | ER  | ER  | Teterboro      | Teterboro Airport                     |
| THV      | ASOS   | FAA    | 8/13/1997  | THV     | CTP     | ER  | ER  | York           | York Airport                          |
| TOL      | ASOS   | NWS    | 12/1/1995  | TOL     | CLE     | ER  | ER  | Toledo         | Toledo Express Airport                |
| TTN      | ASOS   | FAA    | 3/11/1998  | TTN     | PHI     | ER  | ER  | Trenton        | Trenton Mercer Airport                |

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## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                         |  |
|----------|---------|--------|------------|---------|---------|-----|-----|-------------------------|--|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION                | AIRPORT NAME                           |
| UCA      | ASOS    | FAA    | 1/31/2001  | UCA     | BGM     | ER  | ER  | Utica                   | Oneida County Airport                  |
| UUU      | ASOS    | FAA    | 2/29/1996  | UUU     | BOX     | ER  | ER  | Newport                 | Newport State Airport                  |
| UZA      | ASOS    | FAA    | 1/20/1999  | UZA     | GSP     | ER  | ER  | Rock Hill               | Rock Hill-York County Airport          |
| VAY      | ASOS    | FAA    | 11/5/1997  | VAY     | PHI     | ER  | ER  | Mount Holly             | South Jersey Regional Airport          |
| VSF      | ASOS    | FAA    | 8/23/1995  | VSF     | BTV     | ER  | ER  | Springfield             | Hartness State (Springfield) Airport   |
| VTA      | ASOS    | FAA    | 2/24/1999  | VTA     | ILN     | ER  | ER  | Newark                  | Newark - Heath Airport                 |
| WAL      | ASOS    | NWS    | 9/1/1996   | WAL     | AKQ     | ER  | ER  | Wallops Island          | Wallops Flight Facility Airport        |
| WST      | ASOS    | FAA    | 7/28/1999  | WST     | BOX     | ER  | ER  | Westerly                | Westerly State Airport                 |
| YNG      | ASOS    | NWS    | 9/1/1995   | YNG     | CLE     | ER  | ER  | Youngstown/Warren       | Youngstown - Warren Regional Airport   |
| ZZV      | ASOS    | FAA    | 9/13/2000  | ZZV     | PBZ     | ER  | ER  | Zanesville              | Zanesville Municipal Airport           |
| BRADS    | ASOS    | USAF   | 4/2/1998   | BRADS   | HFO     | PR  | PR  | Bradshaw Army Air Field | Bradshaw AAF                           |
| HNL      | ASOS    | NWS    | 2/1/1998   | HNL     | HFO     | PR  | PR  | Honolulu                | Honolulu Int'l. Airport                |
| ITO      | ASOS    | NWS    | 1/1/1998   | ITO     | HFO     | PR  | PR  | Hilo                    | Hilo Int't. Airport                    |
| KOA      | ASOS    | FAA    | 12/31/1997 | KOA     | HFO     | PR  | PR  | Kailua/Kona             | Kona Int'l. at Keahole Airport         |
| LIH      | ASOS    | NWS    | 12/1/1997  | LIH     | HFO     | PR  | PR  | Lihue                   | Lihue Airport                          |
| MKK      | OT-ASOS | NWS    | 6/1/1999   | MKK     | HFO     | PR  | PR  | Kaunakakai              | Molokai Airport                        |
| OGG      | ASOS    | NWS    | 3/1/1998   | OGG     | HFO     | PR  | PR  | Kahului                 | Kahului Airport                        |
| PGSN     | OT-ASOS | NWS    | 1/11/2000  | PGSN    | PGUM    | PR  | PR  | Saipan Island           | Saipan Int'l. Airport                  |
| PGUM     | ASOS    | NWS    | 1/11/2000  | GUM     | PGUM    | PR  | PR  | Agana                   | Guam Int'l. Airport                    |
| PHBK     | ASOS    | NAVY   | 4/15/1994  | PHBK    | HFO     | PR  | PR  | Kekaha                  | Pacific Missile Test Facility, Barking |
| PHNG     | ASOS    | NAVY   | 4/29/1994  | PHNG    | HFO     | PR  | PR  | Kaneohe                 | Kaneohe Bay MCAS                       |
| 40J      | OT-ASOS | NWS    | 2/27/1998  | 40J     | TAE     | SR  | SR  | Perry-Foley             | Perry-Foley Airport                    |
| 6R6      | OT-ASOS | NWS    | 6/15/1999  | 6R6     | MAF     | SR  | SR  | Dryden                  | Terrel County Airport                  |
| 79J      | ASOS    | USAF   | 11/3/1995  | 79J     | MOB     | SR  | SR  | Andalusia               | Andalusia Municipal Airport            |
| AAF      | OT-ASOS | NWS    | 7/31/1998  | AAF     | TAE     | SR  | SR  | Apalachicola            | Apalachicola Municipal Airport         |
| ABI      | ASOS    | NWS    | 5/1/1996   | ABI     | SJT     | SR  | SR  | Abilene                 | Abilene Regional Airport               |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |        |        | COMMISSION |         |         |     |     |               |                                      |
|----------|--------|--------|------------|---------|---------|-----|-----|---------------|--------------------------------------|
| EQUIP_ID | SYSTEM | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION      | AIRPORT NAME                         |
| ABQ      | ASOS   | NWS    | 3/1/1996   | ABQ     | ABQ     | SR  | SR  | Albuquerque   | Albuquerque Int'l. Sunport Airport   |
| ABY      | ASOS   | FAA    | 1/17/2001  | ABY     | TAE     | SR  | SR  | Albany        | Southwest Georgia Regional Airport   |
| ACT      | ASOS   | NWS    | 7/1/1993   | ACT     | FWD     | SR  | SR  | Waco          | Waco Regional Airport                |
| AEX      | ASOS   | FAA    | 7/20/1999  | AEX     | LCH     | SR  | SR  | Alexandria    | Alexandria Int'l. Airport            |
| AFW      | ASOS   | FAA    | 7/25/1997  | AFW     | FWD     | SR  | SR  | Fort Worth    | Fort Worth Alliance Airport          |
| AGS      | ASOS   | NWS    | 5/1/1994   | AGS     | CAE     | SR  | SR  | Augusta       | Bush Field                           |
| AHN      | ASOS   | NWS    | 2/1/1996   | AHN     | FFC     | SR  | SR  | Athens        | Athens - Ben Epps Airport            |
| ALI      | ASOS   | FAA    | 1/10/2001  | ALI     | CRP     | SR  | SR  | Alice         | Alice Int'l. Airport                 |
| AMA      | ASOS   | NWS    | 11/1/1992  | AMA     | AMA     | SR  | SR  | Amarillo      | Amarillo Int'l. Airport              |
| AMG      | ASOS   | FAA    | 12/13/2000 | AMG     | JAX     | SR  | SR  | Alma          | Bacon County Airport                 |
| ANB      | ASOS   | FAA    | 6/17/1998  | ANB     | BMX     | SR  | SR  | Anniston      | Anniston Metropolitan Airport        |
| APF      | ASOS   | FAA    |            | APF     | MFL     | SR  | SR  | Naples        | Naples Municipal Airport             |
| ARA      | ASOS   | FAA    | 5/5/1998   | ARA     | LCH     | SR  | SR  | New Iberia    | Acadiana Regional Airport            |
| ASD      | ASOS   | FAA    | 6/24/1998  | ASD     | LIX     | SR  | SR  | Slidell       | Slidell Airport                      |
| ATL      | ASOS   | NWS    | 8/1/1995   | ATL     | FFC     | SR  | SR  | Atlanta       | The William B. Hartsfield Atlanta    |
| ATT      | ASOS   | NWS    | 7/1/1995   | ATT     | EWX     | SR  | SR  | Austin        | Old Robert Mueller Municipal Airport |
| AUS      | ASOS   | FAA    | 10/2/1997  | AUS     | EWX     | SR  | SR  | Austin        | Austin - Bergstrom Int'l. Airport    |
| BAZ      | ASOS   | FAA    | 2/29/1996  | BAZ     | EWX     | SR  | SR  | New Braunfels | New Braunfels Municipal Airport      |
| BFM      | ASOS   | FAA    | 9/5/1996   | BFM     | MOB     | SR  | SR  | Mobile        | Mobile Downtown Airport              |
| BGD      | ASOS   | FAA    | 12/19/1995 | BGD     | AMA     | SR  | SR  | Borger        | Hutchinson County Airport            |
| BHM      | ASOS   | FAA    | 9/25/1998  | BHM     | BMX     | SR  | SR  | Birmingham    | Birmingham Int'l. Airport            |
| BIX1     | ASOS   | NAVY   |            | BIX1    | LIX     | SR  | SR  | Biloxi        | Keesler AFB                          |
| BIX2     | ASOS   | NAVY   |            | BIX2    | LIX     | SR  | SR  | Biloxi        | Keesler AFB                          |
| BIX3     | ASOS   | NAVY   |            | BIX3    | LIX     | SR  | SR  | Biloxi        | Keesler AFB                          |
| BKV      | ASOS   | FAA    | 5/24/1995  | BKV     | TBW     | SR  | SR  | Brooksville   | Hernando County Airport              |
| BMQ      | ASOS   | FAA    | 7/12/1996  | BMQ     | EWX     | SR  | SR  | Burnet        | Burnet Municipal Airport (Kate)      |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                      |   |
|----------|---------|--------|------------|---------|---------|-----|-----|----------------------|---|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION             | AIRPORT NAME                            |
| BNA      | ASOS    | NWS    | 6/1/1996   | BNA     | OHX     | SR  | SR  | Nashville            | Nashville Int'l. Airport                |
| BPK      | ASOS    | FAA    | 10/22/1998 | BPK     | LZK     | SR  | SR  | Mountain Home        | Baxter County Regional Airport          |
| BPT      | ASOS    | NWS    | 7/1/1995   | BPT     | LCH     | SR  | SR  | Beaumont/Port Arthur | Jefferson County Airport                |
| BRO      | ASOS    | NWS    | 5/1/1994   | BRO     | BRO     | SR  | SR  | Brownsville          | Brownsville - South Padre Island        |
| BTR      | ASOS    | NWS    | 5/1/1993   | BTR     | LIX     | SR  | SR  | Baton Rouge          | Baton Rouge Metropolitan Airport (Ryan) |
| BVE      | OT-ASOS | NWS    | 6/30/1999  | BVE     | LIX     | SR  | SR  | Bootheville          | Petroleum Helicopters, Inc Heliport     |
| BVO      | ASOS    | FAA    | 11/9/1999  | BVO     | TSA     | SR  | SR  | Bartlesville         | Bartlesville Municipal Airport          |
| CAO      | ASOS    | NWS    | 6/1/1996   | CAO     | ABQ     | SR  | SR  | Clayton              | Clayton Municipal Airpark               |
| CCAS1    | ASOS    | USAF   | 6/13/1997  | XMR     | MLB     | SR  | SR  | Cocoa Beach          | Cape Canaveral AS Skid Strip            |
| CDS      | ASOS    | FAA    | 7/31/1996  | CDS     | LUB     | SR  | SR  | Childress            | Childress Municipal Airport             |
| CEW      | ASOS    | FAA    | 7/1/1997   | CEW     | MOB     | SR  | SR  | Crestview            | Bob Sikes Airport                       |
| CHA      | ASOS    | NWS    | 9/1/1995   | CHA     | MRX     | SR  | SR  | Chattanooga          | Lovell Field                            |
| CKV      | ASOS    | FAA    | 4/10/2001  | CKV     | OHX     | SR  | SR  | Clarksville          | Outlaw Field                            |
| CLL      | ASOS    | FAA    | 12/10/1996 | CLL     | HGX     | SR  | SR  | College Station      | Easterwood Field                        |
| CNM      | ASOS    | FAA    | 11/29/2000 | CNM     | MAF     | SR  | SR  | Carlsbad             | Cavern City Air Terminal                |
| COT      | ASOS    | FAA    | 1/10/2001  | COT     | CRP     | SR  | SR  | Cotulla              | Cotulla - La Salle County Airport       |
| CQC      | OT-ASOS | NWS    | 5/27/1998  | CQC     | ABQ     | SR  | SR  | Clines Corners       | Clines Corners                          |
| CRG      | ASOS    | FAA    | 11/25/1997 | CRG     | JAX     | SR  | SR  | Jacksonville         | Craig Municipal Airport                 |
| CRP      | ASOS    | NWS    | 12/1/1995  | CRP     | CRP     | SR  | SR  | Corpus Christi       | Corpus Christi Int'l. Airport           |
| CRS      | ASOS    | FAA    | 5/20/1997  | CRS     | FWD     | SR  | SR  | Corsicana            | Corsicana Airport (C. David Campbell)   |
| CSG      | ASOS    | NWS    | 5/1/1994   | CSG     | FFC     | SR  | SR  | Columbus             | Columbus Metropolitan Airport           |
| CSM      | ASOS    | FAA    | 10/15/1996 | CSM     | OUN     | SR  | SR  | Clinton              | Clinton - Sherman Airport               |
| CSV      | ASOS    | FAA    | 10/4/2000  | CSV     | OHX     | SR  | SR  | Crossville           | Crossville Memorial Airport (Whitson)   |
| CTY      | OT-ASOS | NWS    | 2/27/1998  | CTY     | TAE     | SR  | SR  | Cross City           | Cross City Airport                      |
| CXO      | ASOS    | FAA    | 12/10/1996 | CXO     | HGX     | SR  | SR  | Conroe               | Montgomery County Airport               |
| DAB      | ASOS    | NWS    | 6/1/1995   | DAB     | MLB     | SR  | SR  | Daytona Beach        | Daytona Beach Int'l. Airport            |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                   |   |
|----------|---------|--------|------------|---------|---------|-----|-----|-------------------|---|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION          | AIRPORT NAME                            |
| DAL      | ASOS    | FAA    | 11/19/1997 | DAL     | FWD     | SR  | SR  | Dallas            | Dallas Love Field                       |
| DCU      | ASOS    | FAA    | 10/23/1996 | DCU     | BMX     | SR  | SR  | Decatur           | Pryor Field Regional Airport            |
| DEQ      | ASOS    | FAA    | 7/12/2001  | DEQ     | SHV     | SR  | SR  | De Queen          | J. Lynn Helms - Sevier County Airport   |
| DFW      | ASOS    | NWS    | 12/1/1995  | DFW     | FWD     | SR  | SR  | Dallas/Fort Worth | Dallas - Fort Worth Int'l. Airport      |
| DHN      | ASOS    | FAA    | 6/27/2001  | DHN     | TAE     | SR  | SR  | Dothan            | Dothan Airport                          |
| DHT      | ASOS    | FAA    | 9/20/2000  | DHT     | AMA     | SR  | SR  | Dalhart           | Dalhart Municipal Airport               |
| DLF      | ASOS    | USAF   | 4/13/1996  | DLF     | EWX     | SR  | SR  | Del Rio           | Laughlin AFB                            |
| DMN      | ASOS    | FAA    | 8/30/2000  | DMN     | EPZ     | SR  | SR  | Deming            | Deming Municipal Airport                |
| DNL      | ASOS    | FAA    | 12/5/1995  | DNL     | CAE     | SR  | SR  | Augusta           | Daniel Field                            |
| DRT      | ASOS    | NWS    | 4/1/1996   | DRT     | EWX     | SR  | SR  | Del Rio           | Del Rio Int'l. Airport                  |
| DTN      | ASOS    | FAA    | 5/1/1997   | DTN     | SHV     | SR  | SR  | Shreveport        | Shreveport Downtown Airport             |
| DTO      | ASOS    | FAA    | 7/26/1995  | DTO     | FWD     | SR  | SR  | Denton            | Denton Municipal Airport                |
| DTS      | ASOS    | FAA    | 11/6/1996  | DTS     | MOB     | SR  | SR  | Destin            | Destin - Fort Walton Beach Airport      |
| DWH      | ASOS    | FAA    | 12/9/1997  | DWH     | HGX     | SR  | SR  | Houston           | David Wayne Hooks Memorial Airport      |
| EET      | ASOS    | FAA    | 6/17/1998  | EET     | BMX     | SR  | SR  | Alabaster         | Shelby County Airport                   |
| ELD      | ASOS    | FAA    | 11/1/2000  | ELD     | SHV     | SR  | SR  | El Dorado         | South Arkansas Regional at Goodwin      |
| ELP      | ASOS    | NWS    | 6/1/1995   | ELP     | EPZ     | SR  | SR  | El Paso           | El Paso Int'l. Airport                  |
| ESF      | ASOS    | FAA    | 4/30/1996  | ESF     | LCH     | SR  | SR  | Alexandria        | Alexandria Esler Regional Airport       |
| EYW      | ASOS    | NWS    | 3/1/1996   | EYW     | EYW     | SR  | SR  | Key West          | Key West Int'l. Airport                 |
| FDR      | ASOS    | FAA    | 1/28/1998  | FDR     | OUN     | SR  | SR  | Frederick         | Frederick Municipal Airport (Altus AFB) |
| FFC      | ASOS    | FAA    | 9/26/1995  | FFC     | FFC     | SR  | SR  | Atlanta           | Peachtree City Airport (Falcon Field)   |
| FLL      | ASOS    | FAA    | 9/9/1998   | FLL     | MFL     | SR  | SR  | Fort Lauderdale   | Fort Lauderdale - Hollywood Int'l.      |
| FMN      | OT-ASOS | NWS    | 12/10/1997 | FMN     | ABQ     | SR  | SR  | Farmington        | Four Corners Regional Airport           |
| FMY      | ASOS    | FAA    | 6/10/1998  | FMY     | TBW     | SR  | SR  | Cape Coral        | Page Field (Ft. Myers)                  |
| FPR      | ASOS    | FAA    | 7/28/1999  | FPR     | MLB     | SR  | SR  | Fort Pierce       | St. Lucie County Int'l. Airport         |
| FSM      | ASOS    | NWS    | 8/1/1994   | FSM     | TSA     | SR  | SR  | Fort Smith        | Fort Smith Regional Airport             |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                 |                                      |
|----------|---------|--------|------------|---------|---------|-----|-----|-----------------|--------------------------------------|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION        | AIRPORT NAME                         |
| FST      | ASOS    | FAA    | 12/6/1995  | FST     | MAF     | SR  | SR  | Fort Stockton   | Fort Stockton - Pecos County Airport |
| FTPK1    | ASOS    | USAF   | 7/10/1997  | LA-A1   | SHV     | SR  | SR  | Ft Polk (JTRTC) | Eagle Hill                           |
| FTPK2    | ASOS    | USAF   | 7/10/1997  | LA-A2   | LCH     | SR  | SR  | Ft Polk (JTRTC) | Geronimo                             |
| FTPK3    | ASOS    | USAF   | 7/10/1997  | LA-A3   | LCH     | SR  | SR  | Ft Polk (JTRTC) | Range 42                             |
| FTW      | ASOS    | FAA    | 9/23/1997  | FTW     | FWD     | SR  | SR  | Fort Worth      | Fort Worth Meacham Int'l. Airport    |
| FTY      | ASOS    | FAA    | 10/28/1998 | FTY     | FFC     | SR  | SR  | Atlanta         | Fulton County Airport (Brown Field)  |
| FXE      | ASOS    | FAA    | 6/24/1998  | FXE     | MFL     | SR  | SR  | Fort Lauderdale | Fort Lauderdale Executive Airport    |
| FYV      | ASOS    | FAA    | 5/13/1997  | FYV     | TSA     | SR  | SR  | Fayetteville    | Drake Field                          |
| GAG      | ASOS    | FAA    | 10/31/1996 | GAG     | OUN     | SR  | SR  | Gage            | Gage Airport                         |
| GDP      | OT-ASOS | NWS    | 6/15/1999  | GDP     | MAF     | SR  | SR  | Pine Springs    | Guadalupe Mountains National Park    |
| GGG      | ASOS    | FAA    | 5/20/1998  | GGG     | SHV     | SR  | SR  | Longview        | Gregg County Airport                 |
| GIF      | ASOS    | FAA    | 6/30/1995  | GIF     | TBW     | SR  | SR  | Winter Haven    | Winter Haven's Gilbert Airport       |
| GKY      | ASOS    | FAA    | 7/22/1997  | GKY     | FWD     | SR  | SR  | Arlington       | Arlington Municipal Airport          |
| GLH      | ASOS    | FAA    | 8/15/2001  | GLH     | JAN     | SR  | SR  | Greenville      | Mid Delta Regional Airport           |
| GLS      | ASOS    | FAA    | 11/29/1996 | GLS     | HGX     | SR  | SR  | Galveston       | Scholes Field                        |
| GNT      | OT-ASOS | NWS    | 10/1/1997  | GNT     | ABQ     | SR  | SR  | Grants          | Grants - Milan Municipal Airport     |
| GNV      | ASOS    | FAA    | 8/12/1998  | GNV     | JAX     | SR  | SR  | Gainesville     | Gainesville Regional Airport         |
| GOK      | ASOS    | FAA    | 4/9/1998   | GOK     | OUN     | SR  | SR  | Guthrie         | Guthrie Municipal Airport            |
| GPT      | ASOS    | FAA    | 8/12/1998  | GPT     | LIX     | SR  | SR  | Gulfport        | Gulfport - Biloxi Regional Airport   |
| GUP      | ASOS    | FAA    | 10/11/2000 | GUP     | ABQ     | SR  | SR  | Gallup          | Gallup Municipal Airport             |
| GUY      | OT-ASOS | NWS    | 12/1/1998  | GUY     | AMA     | SR  | SR  | Guymon          | Guymon Municipal Airport             |
| GVL      | ASOS    | FAA    | 10/17/1995 | GVL     | FFC     | SR  | SR  | Gainesville     | Lee Gilmer Memorial Airport          |
| GWO      | ASOS    | FAA    | 6/3/1997   | GWO     | JAN     | SR  | SR  | Greenwood       | Greenwood - Leflore Airport          |
| GZH      | ASOS    | FAA    | 3/31/1997  | GZH     | MOB     | SR  | SR  | Evergreen       | Middleton Field                      |
| HBG      | ASOS    | FAA    | 5/10/2000  | HBG     | JAN     | SR  | SR  | Hattiesburg     | Bobby L. Chain Municipal Airport     |
| HBR      | ASOS    | FAA    | 7/31/1996  | HBR     | OUN     | SR  | SR  | Hobart          | Hobart Municipal Airport             |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                |   |
|----------|---------|--------|------------|---------|---------|-----|-----|----------------|---|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION       | AIRPORT NAME                            |
| HDO      | ASOS    | FAA    | 3/15/1996  | HDO     | EWX     | SR  | SR  | Hondo          | Hondo Municipal Airport                 |
| HKA      | ASOS    | FAA    | 10/28/1998 | HKA     | MEG     | SR  | SR  | Blytheville    | Blytheville Municipal Airport           |
| HKS      | ASOS    | FAA    | 7/20/2000  | HKS     | JAN     | SR  | SR  | Jackson        | Hawkins Field                           |
| HOT      | ASOS    | FAA    | 12/20/2000 | HOT     | LZK     | SR  | SR  | Hot Springs    | Memorial Field                          |
| HOU      | ASOS    | FAA    | 8/12/1998  | HOU     | HGX     | SR  | SR  | Houston        | William P. Hobby Airport                |
| HRL      | ASOS    | FAA    | 11/25/1996 | HRL     | BRO     | SR  | SR  | Harlingen      | Rio Grande Valley Int'l. Airport        |
| HRO      | ASOS    | FAA    | 9/13/2000  | HRO     | LZK     | SR  | SR  | Harrison       | Boone County Airport                    |
| HSV      | ASOS    | NWS    | 8/1/1994   | HSV     | BMX     | SR  | SR  | Huntsville     | Huntsville Int'l. Airport (Carl T.)     |
| HWO      | ASOS    | FAA    | 4/21/1999  | HWO     | MFL     | SR  | SR  | Hollywood      | North Perry Airport                     |
| IAH      | ASOS    | NWS    | 6/1/1996   | IAH     | HGX     | SR  | SR  | Houston        | George Bush Intercontinental Airport    |
| IKR      | ASOS    | USAF   | 3/16/1996  | IKR     | ABQ     | SR  | SR  | Albuquerque    | Kirtland AFB Auxiliary Field (Heliport) |
| INK      | ASOS    | FAA    | 11/29/2000 | INK     | MAF     | SR  | SR  | Wink           | Winkler County Airport                  |
| JAN      | ASOS    | NWS    | 7/1/1993   | JAN     | JAN     | SR  | SR  | Jackson        | Jackson Int'l. Airport                  |
| JAX      | ASOS    | NWS    | 3/1/1996   | JAX     | JAX     | SR  | SR  | Jacksonville   | Jacksonville Int'l. Airport             |
| JBR      | ASOS    | FAA    | 10/28/1998 | JBR     | MEG     | SR  | SR  | Jonesboro      | Jonesboro Municipal Airport             |
| JCT      | OT-ASOS | NWS    | 12/2/1996  | JCT     | SJT     | SR  | SR  | Junction       | Kimble County Airport                   |
| KNAE     | ASOS    | NAVY   | 5/16/1995  | KNAE    | MLB     | SR  | SR  | Pinecastle     | Pinecastle                              |
| KNBG     | ASOS    | NAVY   | 4/12/1995  | KNBG    | LIX     | SR  | SR  | New Orleans    | New Orleans NAS                         |
| KNBJ     | ASOS    | NAVY   | 7/12/1997  | KNBJ    | MOB     | SR  | SR  | Barin          | Barin NAF                               |
| KNBQ     | ASOS    | NAVY   | 6/8/1995   | KNBQ    | JAX     | SR  | SR  | Kings Bay      | Kings Bay Naval Station                 |
| KNDZ     | ASOS    | NAVY   | 5/5/1995   | KNDZ    | MOB     | SR  | SR  | Milton         | Whiting Field (2)                       |
| KNFJ     | ASOS    | NAVY   | 11/24/1993 | KNFJ    | MOB     | SR  | SR  | Milton         | Choctaw Pensacola, NALF                 |
| KNFW     | ASOS    | NAVY   | 9/7/1996   | KNFW    | FWD     | SR  | SR  | Fort Worth     | Fort Worth NAS                          |
| KNGP     | ASOS    | NAVY   | 9/21/1993  | KNGP    | CRP     | SR  | SR  | Corpus Christi | Corpus Christi NAS                      |
| KNGW     | ASOS    | NAVY   | 9/22/1993  | KNGW    | CRP     | SR  | SR  | Corpus Christi | Cabiness Field (NALF)                   |
| KNIP     | ASOS    | NAVY   | 4/10/1996  | KNIP    | JAX     | SR  | SR  | Jacksonville   | Jacksonville NAS                        |

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## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |        |        | COMMISSION |         |         |     |     |                       |                                      |
|----------|--------|--------|------------|---------|---------|-----|-----|-----------------------|--------------------------------------|
| EQUIP_ID | SYSTEM | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION              | AIRPORT NAME                         |
| KNJW     | ASOS   | NAVY   | 11/11/1993 | KNJW    | JAN     | SR  | SR  | Meridian Range        | Meridian Range (Joe Williams NALF)   |
| KNMM     | ASOS   | NAVY   | 6/11/1994  | KNMM    | JAN     | SR  | SR  | Meridian              | Meridian NAS (McCain Field)          |
| KNMT     | ASOS   | NAVY   | 5/10/1997  | KNMT    | CRP     | SR  | SR  | Ingleside             | McMullen Target Site                 |
| KNOG     | ASOS   | NAVY   | 9/24/1993  | KNOG    | CRP     | SR  | SR  | Orange Grove          | Orange Grove (NALF)                  |
| KNPA     | ASOS   | NAVY   | 5/9/1995   | KNPA    | MOB     | SR  | SR  | Pensacola             | Pensacola NAS                        |
| KNQI     | ASOS   | NAVY   | 8/25/1994  | KNQI    | CRP     | SR  | SR  | Kingsville            | Kingsville NAS                       |
| KNQX     | ASOS   | NAVY   | 4/7/1995   | KNQX    | EYW     | SR  | SR  | Key West              | Key West NAS                         |
| KNRB     | ASOS   | NAVY   | 4/10/1996  | KNRB    | JAX     | SR  | SR  | Mayport               | Mayport NAF                          |
| KNSE     | ASOS   | NAVY   | 5/5/1995   | KNSE    | MOB     | SR  | SR  | Milton                | Whiting Field (1)                    |
| KNVT     | ASOS   | NAVY   | 9/23/1993  | KNVT    | CRP     | SR  | SR  | Corpus Christi        |                                      |
| KNZC     | ASOS   | NAVY   | 6/16/1995  | KNZC    | JAX     | SR  | SR  | Cecil                 | Cecil NAS                            |
| LAW      | ASOS   | FAA    | 9/13/1996  | LAW     | OUN     | SR  | SR  | Lawton                | Lawton - Ft. Sill Regional Airport   |
| LBB      | ASOS   | NWS    | 9/1/1995   | LBB     | LUB     | SR  | SR  | Lubbock               | Lubbock Int'l. Airport               |
| LBX      | ASOS   | FAA    | 5/13/1998  | LBX     | HGX     | SR  | SR  | Angleton/Lake Jackson | Brazoria County Airport              |
| LCH      | ASOS   | NWS    | 1/1/1996   | LCH     | LCH     | SR  | SR  | Lake Charles          | Lake Charles Regional Airport        |
| LEE      | ASOS   | FAA    | 8/7/1996   | LEE     | MLB     | SR  | SR  | Leesburg              | Leesburg Regional Airport            |
| LFK      | ASOS   | FAA    | 8/23/2000  | LFK     | SHV     | SR  | SR  | Lufkin                | Angelina County Airport              |
| LFT      | ASOS   | FAA    | 8/25/1998  | LFT     | LCH     | SR  | SR  | Lafayette             | Lafayette Regional Airport           |
| LIT      | ASOS   | FAA    | 10/28/1998 | LIT     | LZK     | SR  | SR  | Little Rock           | Adams Field                          |
| LLQ      | ASOS   | FAA    | 10/22/1998 | LLQ     | LZK     | SR  | SR  | Monticello            | Monticello Municipal Airport (Ellis) |
| LOR      | ASOS   | USAF   | 5/6/1997   | LOR     | TAE     | SR  | SR  | Ozark                 | Lowe AHP (Ft. Rucker)                |
| LVJ      | ASOS   | FAA    | 4/10/1997  | LVJ     | HGX     | SR  | SR  | Houston               | Clover Field                         |
| LVS      | ASOS   | FAA    | 10/11/2000 | LVS     | ABQ     | SR  | SR  | Las Vegas             | Las Vegas Municipal Airport          |
| MAF      | ASOS   | NWS    | 3/1/1996   | MAF     | MAF     | SR  | SR  | Midland               | Midland Int'l. Airport               |
| MAI      | ASOS   | FAA    | 4/15/1997  | MAI     | TAE     | SR  | SR  | Marianna              | Marianna Municipal Airport           |
| MCB      | ASOS   | FAA    | 9/27/2000  | MCB     | LIX     | SR  | SR  | McComb                | McComb - Pike County - John E Lewis  |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |               |  |
|----------|---------|--------|------------|---------|---------|-----|-----|---------------|--|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION      | AIRPORT NAME                           |
| MCN      | ASOS    | NWS    | 5/1/1994   | MCN     | FFC     | SR  | SR  | Macon         | Middle Georgia Regional Airport        |
| MCO      | ASOS    | NWS    | 7/1/1996   | MCO     | MLB     | SR  | SR  | Orlando       | Orlando Int'l. Airport                 |
| MEI      | ASOS    | NWS    | 7/1/1995   | MEI     | JAN     | SR  | SR  | Meridian      | Key Field                              |
| MEM      | ASOS    | FAA    | 4/30/1999  | MEM     | MEG     | SR  | SR  | Memphis       | Memphis Int'l. Airport                 |
| MFE      | ASOS    | FAA    | 9/30/1996  | MFE     | BRO     | SR  | SR  | McAllen       | McAllen - Miller Int'l. Airport        |
| MGM      | ASOS    | NWS    | 7/1/1995   | MGM     | BMX     | SR  | SR  | Montgomery    | Montgomery Regional Airport (Dannelly) |
| MIA      | ASOS    | NWS    | 7/1/1996   | MIA     | MFL     | SR  | SR  | Miami         | Miami Int'l. Airport                   |
| MKL      | ASOS    | FAA    | 6/3/1997   | MKL     | MEG     | SR  | SR  | Jackson       | McKellar - Sipes Regional Airport      |
| MKO      | ASOS    | FAA    | 7/12/1996  | MKO     | TSA     | SR  | SR  | Muskogee      | Davis Field                            |
| MLB      | ASOS    | FAA    | 2/7/2001   | MLB     | MLB     | SR  | SR  | Melbourne     | Melbourne Int'l. Airport               |
| MLC      | ASOS    | FAA    | 7/15/1996  | MLC     | TSA     | SR  | SR  | McAlester     | McAlester Regional Airport             |
| MLU      | ASOS    | FAA    | 6/24/1998  | MLU     | SHV     | SR  | SR  | Monroe        | Monroe Regional Airport                |
| MOB      | ASOS    | NWS    | 2/1/1996   | MOB     | MOB     | SR  | SR  | Mobile        | Mobile Regional Airport                |
| MSL      | ASOS    | FAA    | 4/8/1997   | MSL     | BMX     | SR  | SR  | Muscle Shoals | Northwest Alabama Regional Airport     |
| MSY      | ASOS    | NWS    | 5/1/1996   | MSY     | LIX     | SR  | SR  | New Orleans   | New Orleans Int'l. Airport (Moisant)   |
| MTH      | ASOS    | FAA    | 5/14/1998  | MTH     | EYW     | SR  | SR  | Marathon      | Marathon Airport                       |
| MWL      | ASOS    | FAA    | 12/6/2000  | MWL     | FWD     | SR  | SR  | Mineral Wells | Mineral Wells Airport                  |
| MWT      | OT-ASOS | NWS    | 3/1/1999   | MWT     | LZK     | SR  | SR  | Mount Ida     | Ouachita Seed Orchard                  |
| NEW      | ASOS    | FAA    | 8/12/1998  | NEW     | LIX     | SR  | SR  | New Orleans   | Lakefront Airport                      |
| ODO      | ASOS    | FAA    | 12/1/1998  | ODO     | MAF     | SR  | SR  | Odessa        | Odessa - Schlemeyer Field              |
| OKC      | ASOS    | NWS    | 10/1/1992  | OKC     | OUN     | SR  | SR  | Oklahoma City | Will Rogers World Airport              |
| OPF      | ASOS    | FAA    | 5/21/1998  | OPF     | MFL     | SR  | SR  | Miami         | Opa Locka Airport                      |
| OQT      | OT-ASOS | NWS    | 9/1/1998   | OQT     | MRX     | SR  | SR  | Oak Ridge     | Oak Ridge                              |
| ORL      | ASOS    | FAA    | 6/10/1998  | ORL     | MLB     | SR  | SR  | Orlando       | Orlando Executive Airport              |
| P92      | OT-ASOS | NWS    | 5/5/1998   | P92     | LCH     | SR  | SR  | Salt Point    | Salt Point Airport                     |
| PAFB1    | ASOS    | USAF   | 7/8/1997   | COF     | MLB     | SR  | SR  | Cocoa Beach   | Patrick AFB                            |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                 |   |
|----------|---------|--------|------------|---------|---------|-----|-----|-----------------|---|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION        | AIRPORT NAME                            |
| PBF      | ASOS    | FAA    | 9/26/2000  | PBF     | LZK     | SR  | SR  | Pine Bluff      | Grider Field                            |
| PBI      | ASOS    | NWS    | 4/1/1993   | PBI     | MFL     | SR  | SR  | West Palm Beach | Palm Beach Int'l. Airport               |
| PDK      | ASOS    | FAA    | 3/18/1998  | PDK     | FFC     | SR  | SR  | Atlanta         | Dekalb - Peachtree Airport              |
| PFN      | ASOS    | FAA    | 7/16/1998  | PFN     | TAE     | SR  | SR  | Panama City     | Panama City - Bay County Int'l. Airport |
| PGD      | ASOS    | FAA    | 9/20/1996  | PGD     | TBW     | SR  | SR  | Punta Gorda     | Charlotte County Airport                |
| PIE      | ASOS    | FAA    | 9/24/1998  | PIE     | TBW     | SR  | SR  | St.             | St. Petersburg/Clearwater Int'l.        |
| PIL      | ASOS    | FAA    | 9/17/1998  | PIL     | BRO     | SR  | SR  | Port Isabel     | Port Isabel - Cameron County Airport    |
| PMP      | ASOS    | FAA    | 3/12/1998  | PMP     | MFL     | SR  | SR  | Pompano Beach   | Pompano Beach Airpark Airport           |
| PNC      | ASOS    | FAA    | 11/8/2000  | PNC     | OUN     | SR  | SR  | Ponca City      | Ponca City Municipal Airport            |
| PNS      | ASOS    | FAA    | 11/25/1997 | PNS     | MOB     | SR  | SR  | Pensacola       | Pensacola Regional Airport              |
| PQL      | ASOS    | FAA    | 8/14/1997  | PQL     | LIX     | SR  | SR  | Pascagoula      | Trent Lott Int'l. Airport               |
| PSX      | ASOS    | FAA    | 10/18/2000 | PSX     | HGX     | SR  | SR  | Palacios        | Palacios Municipal Airport              |
| PWA      | ASOS    | FAA    | 7/31/1996  | PWA     | OUN     | SR  | SR  | Oklahoma City   | Wiley Post Airport                      |
| RBD      | ASOS    | FAA    | 8/26/1997  | RBD     | FWD     | SR  | SR  | Dallas          | Redbird Airport                         |
| RKP      | ASOS    | FAA    | 2/29/1996  | RKP     | CRP     | SR  | SR  | Rockport        | Aransas County Airport                  |
| RMG      | OT-ASOS | NWS    | 3/31/1997  | RMG     | FFC     | SR  | SR  | Rome            | Richard B. Russell Airport              |
| ROW      | ASOS    | NWS    | 10/1/1996  | ROW     | ABQ     | SR  | SR  | Roswell         | Roswell Industrial Air Center Airport   |
| RQE      | OT-ASOS | NWS    | 8/18/1998  | RQE     | PSR     | SR  | WR  | Window Rock     | Window Rock Airport                     |
| RSW      | ASOS    | FAA    | 5/21/1998  | RSW     | TBW     | SR  | SR  | Fort Myers      | Southwest Florida Int'l. Airport        |
| RTN      | OT-ASOS | NWS    | 8/27/1998  | RTN     | ABQ     | SR  | SR  | Raton           | Raton Municipal (Crews Field)           |
| RUE      | ASOS    | FAA    | 1/12/1999  | RUE     | LZK     | SR  | SR  | Russellville    | Russellville Regional Airport           |
| RVS      | ASOS    | FAA    | 9/4/1997   | RVS     | TSA     | SR  | SR  | Tulsa           | Richard Lloyd Jones Jr. Airport         |
| SAF      | ASOS    | FAA    | 10/2/1997  | SAF     | ABQ     | SR  | SR  | Santa Fe        | Santa Fe Municipal Airport              |
| SAT      | ASOS    | NWS    | 6/1/1995   | SAT     | EWX     | SR  | SR  | San Antonio     | San Antonio Int'l. Airport              |
| SAV      | ASOS    | NWS    | 4/1/1996   | SAV     | CHS     | SR  | SR  | Savannah        | Savannah Int'l. Airport                 |
| SFB      | ASOS    | FAA    | 2/24/1999  | SFB     | MLB     | SR  | SR  | Orlando         | Orlando Sanford Airport                 |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |        |        | COMMISSION |         |         |     |     |                           |   |
|----------|--------|--------|------------|---------|---------|-----|-----|---------------------------|---|
| EQUIP_ID | SYSTEM | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION                  | AIRPORT NAME                            |
| SGR      | ASOS   | FAA    | 12/28/2000 | SGR     | HGX     | SR  | SR  | Houston                   | Sugar Land Municipal Airport (Hull)     |
| SHV      | ASOS   | NWS    | 10/1/1995  | SHV     | SHV     | SR  | SR  | Shreveport                | Shreveport Regional Airport             |
| SJT      | ASOS   | NWS    | 2/1/1996   | SJT     | SJT     | SR  | SR  | San Angelo                | Mathis Field                            |
| SJU      | ASOS   | NWS    | 5/1/1996   | SJU     | SJU     | SR  | SR  | San Juan                  | Luis Munoz Marin Int'l. Airport         |
| SPG      | ASOS   | FAA    | 6/17/1998  | SPG     | TBW     | SR  | SR  | St. Petersburg            | Albert Whitted Airport                  |
| SPS      | ASOS   | NWS    | 5/1/1993   | SPS     | OUN     | SR  | SR  | Wichita Falls             | Sheppard AFB/Wichita Falls Municipal    |
| SRC      | ASOS   | FAA    |            | SRC     | LZK     | SR  | SR  | Searcy                    | Searcy Municipal Airport                |
| SRQ      | ASOS   | FAA    | 3/18/1999  | SRQ     | TBW     | SR  | SR  | Sarasota/Bradenton        | Sarasota - Bradenton Int'l. Airport     |
| SSF      | ASOS   | FAA    | 5/13/1998  | SSF     | EWX     | SR  | SR  | San Antonio               | Stinson Municipal Airport               |
| SSI      | ASOS   | FAA    | 10/25/2000 | SSI     | JAX     | SR  | SR  | Brunswick                 | Malcolm McKinnon Airport                |
| STT      | ASOS   | FAA    | 8/10/1998  | STT     | SJU     | SR  | SR  | Charlotte Amalie St.      | Cyril E. King Airport                   |
| STX      | ASOS   | FAA    | 8/8/2000   | STX     | SJU     | SR  | SR  | Christiansted St. Croix   | Henry E. Rohlsen Airport                |
| SWO      | ASOS   | FAA    | 10/15/1996 | SWO     | OUN     | SR  | SR  | Stillwater                | Stillwater Regional Airport             |
| TCC      | ASOS   | FAA    | 9/6/2000   | TCC     | ABQ     | SR  | SR  | Tucumcari                 | Tucumcari Municipal Airport             |
| TCL      | ASOS   | FAA    | 1/7/1999   | TCL     | BMX     | SR  | SR  | Tuscaloosa                | Tuscaloosa Municipal Airport            |
| TCS      | ASOS   | NWS    | 9/16/1996  | TCS     | EPZ     | SR  | SR  | Truth Or Consequences     | Truth Or Consequences Municipal Airport |
| TJNR     | ASOS   | NAVY   | 2/1/1997   | TJNR    | SJU     | SR  | SR  | Roosevelt Roads           | Roosevelt Roads NAS                     |
| TKI      | ASOS   | FAA    | 4/22/1998  | TKI     | FWD     | SR  | SR  | McKinney                  | McKinney Municipal Airport              |
| TLH      | ASOS   | NWS    | 4/1/1996   | TLH     | TAE     | SR  | SR  | Tallahassee               | Tallahassee Regional Airport            |
| TMB      | ASOS   | FAA    | 6/17/1998  | TMB     | MFL     | SR  | SR  | Miami                     | Kendall - Tamiami Executive Airport     |
| TOI      | ASOS   | FAA    | 10/5/2000  | TOI     | BMX     | SR  | SR  | Troy                      | Troy Municipal Airport                  |
| TPA      | ASOS   | NWS    | 11/1/1995  | TPA     | TBW     | SR  | SR  | Tampa                     | Tampa Int'l. Airport                    |
| TRI      | ASOS   | NWS    | 10/1/1995  | TRI     | MRX     | SR  | SR  | Bristol/Johnson/Kingsport | Tri-Cities Regional TN/VA Airport       |
| TRL      | ASOS   | FAA    | 5/20/1997  | TRL     | FWD     | SR  | SR  | Terrell                   | Terrell Municipal Airport               |
| TUL      | ASOS   | NWS    | 10/1/1992  | TUL     | TSA     | SR  | SR  | Tulsa                     | Tulsa Int'l. Airport                    |
| TUP      | ASOS   | NWS    | 6/1/1993   | TUP     | MEG     | SR  | SR  | Tupelo                    | Tupelo Municipal - C. D. Lemons Airport |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                         |   |
|----------|---------|--------|------------|---------|---------|-----|-----|-------------------------|---|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION                | AIRPORT NAME                            |
| TVR      | ASOS    | FAA    | 2/29/1996  | TVR     | JAN     | SR  | SR  | Tallulah/Vicksburg      | Vicksburg - Tallulah Regional Airport   |
| TXK      | ASOS    | FAA    | 7/12/1996  | TXK     | SHV     | SR  | SR  | Texarkana               | Texarkana Regional Airport (Webb Field) |
| TYR      | ASOS    | FAA    | 5/20/1998  | TYR     | SHV     | SR  | SR  | Tyler                   | Tyler Pounds Field                      |
| TYS      | ASOS    | NWS    | 10/1/1995  | TYS     | MRX     | SR  | SR  | Knoxville               | McGhee Tyson Airport                    |
| UTS      | ASOS    | FAA    | 2/3/1997   | UTS     | HGX     | SR  | SR  | Huntsville              | Huntsville Municipal Airport            |
| VCT      | ASOS    | NWS    | 12/1/1995  | VCT     | CRP     | SR  | SR  | Victoria                | Victoria Regional Airport               |
| VLD      | ASOS    | FAA    | 2/27/2001  | VLD     | TAE     | SR  | SR  | Valdosta                | Valdosta Regional Airport               |
| VPC      | ASOS    | FAA    | 3/22/2000  | VPC     | FFC     | SR  | SR  | Cartersville            | Cartersville Airport                    |
| VRB      | ASOS    | FAA    | 7/30/2001  | VRB     | MLB     | SR  | SR  | Vero Beach              | Vero Beach Municipal Airport            |
| XNA      | ASOS    | FAA    | 4/28/1999  | XNA     | TSA     | SR  | SR  | Fayetteville/Springdale | Northwest Arkansas Regional Airport     |
| 87Q      | OT-ASOS | NWS    | 9/2/1997   | 87Q     | LOX     | WR  | WR  | Pt. Piedras Blanca      | Pt. Piedra Blanca                       |
| AAT      | OT-ASOS | NWS    | 6/1/1998   | AAT     | MFR     | WR  | WR  | Alturas                 | Alturas Municipal Airport               |
| ACV      | ASOS    | FAA    | 2/8/2001   | ACV     | EKA     | WR  | WR  | Arcata/Eureka           | Arcata Airport                          |
| ALW      | ASOS    | FAA    | 10/23/1998 | ALW     | PDT     | WR  | WR  | Walla Walla             | Walla Walla Regional Airport            |
| APC      | ASOS    | FAA    | 5/22/1998  | APC     | MTR     | WR  | WR  | Napa                    | Napa County Airport                     |
| AST      | ASOS    | NWS    | 3/1/1993   | AST     | PQR     | WR  | WR  | Astoria                 | Astoria Regional Airport                |
| AVX      | ASOS    | FAA    | 6/7/2000   | AVX     | LOX     | WR  | WR  | Avalon                  | Catalina Airport                        |
| BCE      | ASOS    | FAA    | 11/16/2000 | BCE     | SLC     | WR  | WR  | Bryce Canyon            | Bryce Canyon Airport                    |
| BFI      | ASOS    | FAA    | 12/9/1998  | BFI     | SEW     | WR  | WR  | Seattle                 | King County Int'l. Airport (Boeing)     |
| BFL      | ASOS    | NWS    | 6/1/1996   | BFL     | HNX     | WR  | WR  | Bakersfield             | Meadows Field Airport                   |
| BHK      | ASOS    | FAA    | 2/19/1998  | BHK     | BYZ     | WR  | WR  | Baker                   | Baker Municipal Airport                 |
| BIH      | ASOS    | NWS    | 5/1/1995   | BIH     | VEF     | WR  | WR  | Bishop                  | Bishop Airport                          |
| BIL      | ASOS    | NWS    | 5/1/1995   | BIL     | BYZ     | WR  | WR  | Billings                | Billings Logan Int'l. Airport           |
| BKE      | ASOS    | FAA    | 10/25/2001 | BKE     | BOI     | WR  | WR  | Baker                   | Baker City Municipal Airport            |
| BLH      | ASOS    | FAA    | 8/30/2000  | BLH     | PSR     | WR  | WR  | Blythe                  | Blythe Airport                          |
| BLI      | ASOS    | FAA    | 9/17/1998  | BLI     | SEW     | WR  | WR  | Bellingham              | Bellingham Int'l. Airport               |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                |   |
|----------|---------|--------|------------|---------|---------|-----|-----|----------------|---|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION       | AIRPORT NAME                            |
| BLU      | ASOS    | NWS    | 1/31/1993  | BLU     | STO     | WR  | WR  | Emigrant Gap   | Blue Canyon - Nyack Airport             |
| BNO      | ASOS    | NWS    | 7/1/1995   | BNO     | BOI     | WR  | WR  | Burns          | Burns Municipal Airport                 |
| BOI      | ASOS    | NWS    | 12/1/1995  | BOI     | BOI     | WR  | WR  | Boise          | Boise Air Terminal (Gowen Field)        |
| BTM      | ASOS    | FAA    | 11/9/2000  | BTM     | MSO     | WR  | WR  | Butte          | Bert Mooney Airport                     |
| BUR      | ASOS    | FAA    | 5/22/1998  | BUR     | LOX     | WR  | WR  | Burbank        | Burbank - Glendale - Pasadena Airport   |
| BYI      | ASOS    | FAA    | 11/8/2000  | BYI     | PIH     | WR  | WR  | Burley         | Burley Municipal Airport                |
| BZN      | ASOS    | FAA    | 6/15/1995  | BZN     | TFX     | WR  | WR  | Bozeman        | Gallatin Field                          |
| CCR      | ASOS    | FAA    | 6/8/1999   | CCR     | MTR     | WR  | WR  | Concord        | Buchanan Field                          |
| CDC      | ASOS    | FAA    | 5/28/1998  | CDC     | SLC     | WR  | WR  | Cedar City     | Cedar City Regional Airport             |
| CEC      | ASOS    | FAA    | 9/13/2000  | CEC     | EKA     | WR  | WR  | Crescent City  | Jack McNamara Field                     |
| CLM      | ASOS    | FAA    | 10/16/1998 | CLM     | SEW     | WR  | WR  | Port Angeles   | William R. Fairchild Int'l. Airport     |
| CMA      | ASOS    | FAA    | 9/29/1999  | CMA     | LOX     | WR  | WR  | Camarillo      | Camarillo Airport                       |
| CNO      | ASOS    | FAA    | 5/21/1998  | CNO     | SGX     | WR  | WR  | Chino          | Chino Airport                           |
| CNY      | ASOS    | FAA    | 7/16/1998  | CNY     | GJT     | WR  | WR  | Moab           | Canyonlands Field                       |
| CQT      | OT-ASOS | NWS    | 6/24/1999  | CQT     | LOX     | WR  | WR  | Los Angeles    | University of Southern California       |
| CRQ      | ASOS    | FAA    | 2/18/1998  | CRQ     | SGX     | WR  | WR  | Carlsbad       | McClellan - Palomar Airport             |
| CTB      | ASOS    | FAA    | 1/17/2001  | CTB     | TFX     | WR  | WR  | Cut Bank       | Cut Bank Municipal Airport              |
| CZZ      | OT-ASOS | NWS    | 8/26/1997  | CZZ     | SGX     | WR  | WR  | Campo          | Campo                                   |
| DAG      | ASOS    | FAA    | 8/23/2000  | DAG     | VEF     | WR  | WR  | Daggett        | Barstow - Daggett Airport               |
| DEW      | ASOS    | FAA    | 11/5/1998  | DEW     | OTX     | WR  | WR  | Deer Park      | Deer Park Airport                       |
| DLN      | ASOS    | FAA    | 5/14/1997  | DLN     | TFX     | WR  | WR  | Dillon         | Dillon Airport                          |
| DLS      | ASOS    | FAA    | 10/26/2000 | DLS     | PDT     | WR  | WR  | The Dalles     | Columbia Gorge Regional/The Dallas      |
| DRA      | ASOS    | NWS    | 7/1/1996   | DRA     | VEF     | WR  | WR  | Mercury        | Desert Rock Airport                     |
| DUG      | ASOS    | FAA    | 9/27/2000  | DUG     | TWC     | WR  | WR  | Douglas Bisbee | Bisbee Douglas Int'l. Airport           |
| DVT      | ASOS    | FAA    | 9/2/1998   | DVT     | PSR     | WR  | WR  | Phoenix        | Phoenix - Deer Valley Municipal Airport |
| EAFB1    | ASOS    | USAF   | 4/5/1997   | 9L2     | LOX     | WR  | WR  | Edwards AFB    | North Auxillary Airfield                |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |        |        | COMMISSION |         |         |     |     |                     |   |
|----------|--------|--------|------------|---------|---------|-----|-----|---------------------|---|
| EQUIP_ID | SYSTEM | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION            | AIRPORT NAME                            |
| EAGLE    | ASOS   | USAF   | 2/21/1998  | EAGLE   | SLC     | WR  | WR  | Hill Air Force Base | Eagle Range                             |
| EAT      | ASOS   | FAA    | 11/30/2000 | EAT     | OTX     | WR  | WR  | Wenatchee           | Pangborn Memorial Airport               |
| EED      | ASOS   | FAA    | 1/24/2001  | EED     | VEF     | WR  | WR  | Needles             | Needles Airport                         |
| EKO      | ASOS   | FAA    | 2/14/2001  | EKO     | LKN     | WR  | WR  | Elko                | Elko Municipal Airport (J.C. Harris)    |
| ELN      | ASOS   | FAA    | 7/30/1998  | ELN     | OTX     | WR  | WR  | Ellensburg          | Bowers Field                            |
| ELY      | ASOS   | NWS    | 6/1/1994   | ELY     | LKN     | WR  | WR  | Ely                 | Ely Airport (Yelland Field)             |
| EPH      | ASOS   | FAA    | 9/19/2001  | EPH     | OTX     | WR  | WR  | Ephrata             | Ephrata Municipal Airport               |
| EUG      | ASOS   | NWS    | 9/1/1995   | EUG     | PQR     | WR  | WR  | Eugene              | Mahlon Sweet Field                      |
| EVW      | ASOS   | FAA    | 7/29/1999  | EVW     | SLC     | WR  | CR  | Evanston            | Evanston - Uinta County Airport (Burns) |
| FAT      | ASOS   | NWS    | 9/1/1995   | FAT     | HNX     | WR  | WR  | Fresno              | Fresno Yosemite Int'l. Airport          |
| FCA      | ASOS   | NWS    | 2/1/1994   | FCA     | MSO     | WR  | WR  | Kalispell           | Glacier Park Int'l. Airport             |
| FHR      | ASOS   | FAA    | 12/18/1997 | FHR     | SEW     | WR  | WR  | Friday Harbor       | Friday Harbor Airport                   |
| FLG      | ASOS   | NWS    | 7/1/1994   | FLG     | FGZ     | WR  | WR  | Flagstaff           | Flagstaff Pulliam Airport               |
| FUL      | ASOS   | FAA    | 7/1/1998   | FUL     | SGX     | WR  | WR  | Fullerton           | Fullerton Municipal Airport             |
| GCN      | ASOS   | FAA    | 12/1/1993  | GCN     | FGZ     | WR  | WR  | Grand Canyon        | Grand Canyon National Park Airport      |
| GEG      | ASOS   | NWS    | 9/1/1995   | GEG     | OTX     | WR  | WR  | Spokane             | Spokane Int'l. Airport                  |
| GGW      | ASOS   | NWS    | 4/1/1994   | GGW     | GGW     | WR  | WR  | Glasgow             | Wokal Field/Glasgow Int'l. Airport      |
|          |        |        |            |         |         |     |     | Dugway Proving      | -                                       |
| GRNPK    | ASOS   | USAF   | 2/26/1998  | GRNPK   | SLC     | WR  | WR  | Grounds             | Granite Peak                            |
| GTF      | ASOS   | NWS    | 8/1/1994   | GTF     | TFX     | WR  | WR  | Great Falls         | Great Falls Int'l. Airport              |
| HHR      | ASOS   | FAA    | 11/10/1998 | HHR     | LOX     | WR  | WR  | Hawthorne           | Hawthorne Municipal Airport (Jack)      |
| HIO      | ASOS   | FAA    | 6/18/1998  | HIO     | PQR     | WR  | WR  | Portland            | Portland - Hillsboro Airport            |
| HJO      | ASOS   | FAA    | 2/19/1998  | HJO     | HNX     | WR  | WR  | Hanford             | Hanford Municipal Airport               |
| HLN      | ASOS   | NWS    | 11/1/1994  | HLN     | TFX     | WR  | WR  | Helena              | Helena Regional Airport                 |
| HQM      | ASOS   | FAA    | 3/22/2001  | HQM     | SEW     | WR  | WR  | Hoquiam             | Bowerman Airport                        |
| HRI      | ASOS   | FAA    | 3/13/1998  | HRI     | PDT     | WR  | WR  | Hermiston           | Hermiston Municipal Airport             |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                     |                                       |
|----------|---------|--------|------------|---------|---------|-----|-----|---------------------|---------------------------------------|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION            | AIRPORT NAME                          |
| HVR      | ASOS    | NWS    | 4/1/1994   | HVR     | TFX     | WR  | WR  | Havre               | Havre City - County Airport           |
| HWD      | ASOS    | FAA    | 9/23/1998  | HWD     | MTR     | WR  | WR  | Hayward             | Hayward Air Terminal                  |
| IDA      | ASOS    | FAA    | 2/5/1998   | IDA     | PIH     | WR  | WR  | Idaho Falls         | Idaho Falls Regional Airport          |
| IGM      | ASOS    | NWS    | 9/1/1995   | IGM     | VEF     | WR  | WR  | Kingman             | Kingman Airport                       |
| INW      | ASOS    | NWS    | 7/1/1995   | INW     | FGZ     | WR  | WR  | Winslow             | Winslow - Lindbergh Regional Airport  |
| IPL      | ASOS    | FAA    | 8/16/2000  | IPL     | PSR     | WR  | WR  | Imperial            | Imperial County Airport               |
| JDN      | OT-ASOS | NWS    | 8/14/1997  | JDN     | GGW     | WR  | WR  | Jordan              | Jordan Airport                        |
| JER      | ASOS    | FAA    | 12/26/1996 | JER     | BOI     | WR  | WR  | Jerome              | Jerome County Airport                 |
| KNFG     | ASOS    | NAVY   | 2/27/1997  | KNFG    | SGX     | WR  | WR  | Oceanside           | Camp Pendleton MCAS (Munn Field)      |
| KNFL     | ASOS    | NAVY   | 10/12/1995 | KNFL    | REV     | WR  | WR  | Fallon              | Fallon Naval Air Station              |
| KNID     | ASOS    | NAVY   | 10/5/1996  | KNID    | HNX     | WR  | WR  | China Lake          | China Lake NAF                        |
| KNJK     | ASOS    | NAVY   | 2/27/1997  | KNJK    | PSR     | WR  | WR  | El Centro           | El Centro NAF                         |
| KNKX     | ASOS    | NAVY   | 4/10/1996  | KNKX    | SGX     | WR  | WR  | San Diego           | Miramar NAS                           |
| KNLC     | ASOS    | NAVY   | 3/27/1997  | KNLC    | HNX     | WR  | WR  | LeMoore             | LeMoore NAS (Reeves Field)            |
| KNRA     | ASOS    | NAVY   | 1/6/1995   | KNRA    | SEW     | WR  | WR  | Coupeville          | Outlying Landing Field                |
| KNRS     | ASOS    | NAVY   | 4/3/1993   | KNRS    | SGX     | WR  | WR  | Imperial Beach      | Imperial Beach NALF                   |
| KNSI     | ASOS    | NAVY   | 12/20/1997 | KNSI    | SGX     | WR  | WR  | San Nicholas Island | San Nicholas Island                   |
| KNTD     | ASOS    | NAVY   | 3/1/1997   | KNTD    | LOX     | WR  | WR  | Point Mugu          | Naval Air Warfare Center              |
| KNUC     | ASOS    | NAVY   | 5/25/1996  | KNUC    | SGX     | WR  | WR  | San Clemente        | San Clemente NALF                     |
| KNUQ     | ASOS    | NAVY   | 7/12/1994  | KNUQ    | MTR     | WR  | WR  | Mountain View       | Moffett Field NAS                     |
| KNUW     | ASOS    | NAVY   | 1/6/1995   | KNUW    | SEW     | WR  | WR  | Whidbey Island      | Whidbey Island Naval Air Station      |
| KNXP     | ASOS    | NAVY   | 2/1/1997   | KNXP    | VEF     | WR  | WR  | Twenty Nine Palms   | Marine Corps Air-Ground Combat Center |
| KNYL     | ASOS    | NAVY   | 9/22/1994  | KNYL    | PSR     | WR  | WR  | Yuma                | Yuma MCAS                             |
| KNZY     | ASOS    | NAVY   | 9/7/1996   | KNZY    | SGX     | WR  | WR  | San Diego           | North Island NAS (Halsey Field)       |
| LAS      | ASOS    | NWS    | 9/1/1995   | LAS     | VEF     | WR  | WR  | Las Vegas           | McCarran Int'l. Airport               |
| LAX      | ASOS    | NWS    | 3/1/1997   | LAX     | LOX     | WR  | WR  | Los Angeles         | Los Angeles Int'l. Airport            |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                     |                                      |
|----------|---------|--------|------------|---------|---------|-----|-----|---------------------|--------------------------------------|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION            | AIRPORT NAME                         |
| LGB      | ASOS    | NWS    | 9/1/1996   | LGB     | LOX     | WR  | WR  | Long Beach          | Long Beach Airport (Daugherty Field) |
| LGU      | ASOS    | FAA    | 10/1/1998  | LGU     | SLC     | WR  | WR  | Logan               | Logan - Cache Airport                |
| LLJ      | OT-ASOS | NWS    | 9/22/1998  | LLJ     | PIH     | WR  | WR  | Challis             | Challis Airport                      |
| LMNTN    | ASOS    | USAF   | 2/26/1998  | LMNTN   | SLC     | WR  | WR  | Hill Air Force Base | Little Mountain                      |
| LMT      | ASOS    | FAA    | 10/15/1997 | LMT     | MFR     | WR  | WR  | Klamath Falls       | Klamath Falls Int'l. Airport         |
| LOL      | ASOS    | FAA    | 12/6/2000  | LOL     | REV     | WR  | WR  | Lovelock            | Derby Field                          |
| LVK      | ASOS    | FAA    | 3/31/1998  | LVK     | MTR     | WR  | WR  | Livermore           | Livermore Municipal Airport          |
| LVM      | ASOS    | FAA    | 10/25/2000 | LVM     | BYZ     | WR  | WR  | Livingston          | Mission Field                        |
| LWS      | ASOS    | NWS    | 7/1/1995   | LWS     | OTX     | WR  | WR  | Lewiston            | Lewiston - Nez Perce County Airport  |
| LWT      | ASOS    | FAA    | 12/14/2000 | LWT     | TFX     | WR  | WR  | Lewistown           | Lewistown Municipal Airport          |
| MAE      | ASOS    | FAA    | 9/2/1998   | MAE     | HNX     | WR  | WR  | Madera              | Madera Municipal Airport             |
|          |         |        |            |         |         |     |     | Malmstrom Air Force | ·                                    |
| MALMS    | ASOS    | USAF   | 2/26/1998  | MALMS   | TFX     | WR  | WR  | Base                | Malmstrom Air Force Base             |
| MCE      | ASOS    | FAA    | 8/6/1998   | MCE     | HNX     | WR  | WR  | Merced              | Merced Municipal Airport (MacReady)  |
| MEH      | OT-ASOS | NWS    | 5/7/1998   | MEH     | PDT     | WR  | WR  | Meacham             | Meacham Airport                      |
| MFR      | ASOS    | NWS    | 1/1/1998   | MFR     | MFR     | WR  | WR  | Medford             | Rogue Valley Int'l Medford Airport   |
| MHS      | ASOS    | NWS    | 8/1/1996   | MHS     | MFR     | WR  | WR  | Mt. Shasta          | Mt. Shasta                           |
| MLF      | ASOS    | NWS    | 8/1/1996   | MLF     | SLC     | WR  | WR  | Milford             | Milford Municipal Airport            |
| MLP      | ASOS    | FAA    | 6/19/1996  | MLP     | MSO     | WR  | WR  | Mullan Pass         | Mullan Pass VOR                      |
| MLS      | ASOS    | FAA    | 11/2/2000  | MLS     | BYZ     | WR  | WR  | Miles City          | Frank Wiley Field                    |
| MMV      | ASOS    | FAA    | 1/29/1997  | MMV     | PQR     | WR  | WR  | McMinnville         | McMinnville Municipal Airport        |
| MOD      | ASOS    | FAA    | 5/13/1998  | MOD     | STO     | WR  | WR  | Modesto             | Modesto City - County - Harry Sham   |
| MRY      | ASOS    | FAA    | 3/25/1998  | MRY     | MTR     | WR  | WR  | Monterey            | Monterey Peninsula Airport           |
| MSO      | ASOS    | NWS    | 9/1/1996   | MSO     | MSO     | WR  | WR  | Missoula            | Missoula Int'l. Airport              |
| MWH      | ASOS    | FAA    | 6/30/1997  | MWH     | OTX     | WR  | WR  | Moses Lake          | Grant County Int'l. Airport          |
| MYF      | ASOS    | FAA    | 2/18/1998  | MYF     | SGX     | WR  | WR  | San Diego           | Montgomery Field                     |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                      |  |
|----------|---------|--------|------------|---------|---------|-----|-----|----------------------|--|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION             | AIRPORT NAME                           |
| MYL      | OT-ASOS | NWS    | 9/16/1997  | MYL     | BOI     | WR  | WR  | McCall               | McCall Airport                         |
| MYV      | ASOS    | FAA    | 10/4/2000  | MYV     | STO     | WR  | WR  | Marysville           | Yuba County Airport                    |
| NAFB1    | ASOS    | USAF   | 5/2/1997   | INS     | VEF     | WR  | WR  | Nellis AFB/Las Vegas | Indian Springs AF Aux.                 |
| NAFB2    | ASOS    | USAF   | 5/2/1997   | NV-A1   | VEF     | WR  | WR  | Nellis AFB           | Nellis AFB Range 74                    |
| OAK      | ASOS    | FAA    | 1/12/2000  | OAK     | MTR     | WR  | WR  | Oakland              | Metropolitan Oakland Int'l. Airport    |
| OGD      | ASOS    | FAA    | 5/6/1998   | OGD     | SLC     | WR  | WR  | Ogden                | Ogden - Hinckley Airport               |
| OKB      | ASOS    | FAA    | 5/12/1999  | OKB     | SGX     | WR  | WR  | Oceanside            | Oceanside Municipal Airport            |
| OLF      | ASOS    | FAA    | 9/17/1998  | OLF     | GGW     | WR  | WR  | Wolf Point           | L. M. Clayton Airport                  |
| OLM      | ASOS    | NWS    | 11/1/1995  | OLM     | SEW     | WR  | WR  | Olympia              | Olympia Airport                        |
| OLS      | ASOS    | FAA    | 7/28/1999  | OLS     | TWC     | WR  | WR  | Nogales              | Nogales Int'l. Airport                 |
| OMK      | ASOS    | FAA    | 2/17/1998  | OMK     | OTX     | WR  | WR  | Omak                 | Omak Airport                           |
| ONO      | ASOS    | FAA    | 4/9/1997   | ONO     | BOI     | WR  | WR  | Ontario              | Ontario Municipal Airport              |
| ONT      | ASOS    | FAA    | 5/27/1998  | ONT     | SGX     | WR  | WR  | Ontario              | Ontario Int'l. Airport                 |
| OVE      | ASOS    | FAA    | 6/17/1998  | OVE     | STO     | WR  | WR  | Oroville             | Oroville Municipal Airport             |
| OXR      | ASOS    | FAA    | 3/4/1998   | OXR     | LOX     | WR  | WR  | Oxnard               | Oxnard Airport                         |
| P38      | OT-ASOS | NWS    | 8/7/1997   | P38     | VEF     | WR  | WR  | Caliente             | Caliente                               |
| P68      | OT-ASOS | NWS    | 8/13/1997  | P68     | LKN     | WR  | WR  | Eureka               | Eureka                                 |
| P69      | OT-ASOS | NWS    | 12/24/1996 | P69     | MSO     | WR  | WR  | Lowell               | Lowell Airport                         |
| PAE      | ASOS    | FAA    | 9/24/1998  | PAE     | SEW     | WR  | WR  | Everett              | Snohomish County Airport (Paine Field) |
| PDT      | ASOS    | NWS    | 6/1/1995   | PDT     | PDT     | WR  | WR  | Pendleton            | Eastern Oregon Regional at Pendleton   |
| PDX      | ASOS    | NWS    | 11/1/1995  | PDX     | PQR     | WR  | WR  | Portland             | Portland Int'l. Airport                |
| PGA      | ASOS    | NWS    | 3/28/1997  | PGA     | FGZ     | WR  | WR  | Page                 | Page Municipal Airport                 |
| PHX      | ASOS    | NWS    | 3/1/1994   | PHX     | PSR     | WR  | WR  | Phoenix              | Phoenix Sky Harbor Int'l. Airport      |
| PIH      | ASOS    | NWS    | 3/1/1996   | PIH     | PIH     | WR  | WR  | Pocatello            | Pocatello Regional Airport             |
| PMD      | ASOS    | FAA    | 4/8/1998   | PMD     | LOX     | WR  | WR  | Palmdale             | Palmdale Production Flight/Test Instln |
| PRB      | ASOS    | FAA    | 1/18/2001  | PRB     | LOX     | WR  | WR  | Paso Robles          | Paso Robles Municipal Airport          |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                 |                                      |
|----------|---------|--------|------------|---------|---------|-----|-----|-----------------|--------------------------------------|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION        | AIRPORT NAME                         |
| PRC      | ASOS    | FAA    | 2/3/1999   | PRC     | FGZ     | WR  | WR  | Prescott        | Ernest A. Love Field                 |
| PSC      | ASOS    | FAA    | 1/29/1998  | PSC     | PDT     | WR  | WR  | Pasco           | Tri-Cities Airport                   |
| PSP      | ASOS    | FAA    | 2/18/1998  | PSP     | PSR     | WR  | WR  | Palm Springs    | Palm Springs Regional Airport        |
| PUC      | ASOS    | FAA    | 9/11/1998  | PUC     | SLC     | WR  | WR  | Price           | Carbon County Airport                |
| PUW      | ASOS    | FAA    | 6/11/1998  | PUW     | OTX     | WR  | WR  | Pullman/Moscow  | Pullman/Moscow Regional Airport      |
| RAL      | ASOS    | FAA    | 7/23/1998  | RAL     | SGX     | WR  | WR  | Riverside       | Riverside Municipal Airport          |
| RBG      | ASOS    | FAA    | 6/25/1997  | RBG     | MFR     | WR  | WR  | Roseburg        | Roseburg Regional Airport            |
| RBL      | ASOS    | NWS    | 10/1/1995  | RBL     | STO     | WR  | WR  | Red Bluff       | Red Bluff Municipal Airport          |
| RDD      | ASOS    | NWS    | 7/1/1996   | RDD     | STO     | WR  | WR  | Redding         | Redding Municipal Airport            |
| RDM      | ASOS    | FAA    | 4/20/2000  | RDM     | PDT     | WR  | WR  | Redmond         | Roberts Field                        |
| REO      | OT-ASOS | NWS    | 3/18/1998  | REO     | BOI     | WR  | WR  | Rome            | Rome State Airport                   |
| RNM      | OT-ASOS | NWS    | 4/16/1998  | RNM     | SGX     | WR  | WR  | Ramona          | Ramona Airport                       |
| RNO      | ASOS    | NWS    | 9/1/1995   | RNO     | REV     | WR  | WR  | Reno            | Reno - Tahoe Int'l. Airport          |
| RNT      | ASOS    | FAA    | 10/8/1998  | RNT     | SEW     | WR  | WR  | Renton          | Renton Municipal Airport             |
| RXE      | ASOS    | FAA    | 2/12/1998  | RXE     | PIH     | WR  | WR  | Rexburg         | Rexburg - Madison County Airport     |
| SAC      | ASOS    | FAA    | 4/15/1998  | SAC     | STO     | WR  | WR  | Sacramento      | Sacramento Executive Airport         |
| SAD      | OT-ASOS | NWS    | 9/3/1997   | SAD     | TWC     | WR  | WR  | Safford         | Safford Municipal Airport            |
| SAN      | ASOS    | NWS    | 8/1/1996   | SAN     | SGX     | WR  | WR  | San Diego       | San Diego Int'l. Airport (Lindbergh) |
| SBA      | ASOS    | FAA    | 3/4/1998   | SBA     | LOX     | WR  | WR  | Santa Barbara   | Santa Barbara Municipal Airport      |
| SBP      | ASOS    | FAA    | 4/1/1998   | SBP     | LOX     | WR  | WR  | San Luis Obispo | San Luis Obispo County - McChesney   |
| SCK      | ASOS    | NWS    | 11/1/1996  | SCK     | STO     | WR  | WR  | Stockton        | Stockton Metropolitan Airport        |
| SDB      | ASOS    | NWS    | 4/1/1996   | SDB     | LOX     | WR  | WR  | Sandberg        | Sandberg                             |
| SDL      | ASOS    | FAA    | 10/30/2001 | SDL     | PSR     | WR  | WR  | Scottsdale      | Scottsdale Airport                   |
| SDM      | ASOS    | NWS    | 2/1/1997   | SDM     | SGX     | WR  | WR  | San Diego       | Brown Field Municipal Airport        |
| SEA      | ASOS    | NWS    | 10/1/1996  | SEA     | SEW     | WR  | WR  | Seattle         | Seattle - Tacoma Int'l. Airport      |
| SFF      | ASOS    | FAA    | 10/15/1998 | SFF     | OTX     | WR  | WR  | Spokane         | Felts Field                          |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |         |        | COMMISSION |         |         |     |     |                  |  |
|----------|---------|--------|------------|---------|---------|-----|-----|------------------|--|
| EQUIP_ID | SYSTEM  | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION         | AIRPORT NAME                           |
| SFO      | ASOS    | NWS    | 10/1/1996  | SFO     | MTR     | WR  | WR  | San Francisco    | San Francisco Int'l. Airport           |
| SHN      | OT-ASOS | NWS    | 5/22/1998  | SHN     | SEW     | WR  | WR  | Shelton          | Sanderson Field                        |
| SHR      | ASOS    | NWS    | 12/1/1996  | SHR     | BYZ     | WR  | CR  | Sheridan         | Sheridan County Airport                |
| SIY      | ASOS    | FAA    | 1/10/2001  | SIY     | MFR     | WR  | WR  | Montague         | Siskiyou County Airport                |
| SJC      | ASOS    | FAA    | 7/8/1998   | SJC     | MTR     | WR  | WR  | San Jose         | San Jose Int'l. Airport                |
| SJN      | ASOS    | FAA    | 5/26/1999  | SJN     | FGZ     | WR  | WR  | St. Johns        | St. Johns Industrial Air Park          |
| SLC      | ASOS    | NWS    | 3/1/1998   | SLC     | SLC     | WR  | WR  | Salt Lake City   | Salt Lake City Int'l. Airport          |
| SLE      | ASOS    | NWS    | 7/1/1995   | SLE     | PQR     | WR  | WR  | Salem            | McNary Field                           |
| SMF      | ASOS    | FAA    | 5/21/1998  | SMF     | STO     | WR  | WR  | Sacramento       | Sacramento Int'l. Airport              |
| SMO      | ASOS    | FAA    | 10/5/2000  | SMO     | LOX     | WR  | WR  | Santa Monica     | Santa Monica Municipal Airport         |
| SMP      | ASOS    | NWS    | 2/15/1994  | SMP     | SEW     | WR  | WR  | Stampede Pass    | Stampede Pass                          |
| SMX      | ASOS    | NWS    | 8/1/1996   | SMX     | LOX     | WR  | WR  | Santa Maria      | Santa Maria Public Airport/Capt G.     |
| SNA      | ASOS    | FAA    | 2/17/1999  | SNA     | SGX     | WR  | WR  | Santa Ana        | John Wayne Airport - Orange County     |
| SNS      | ASOS    | FAA    | 9/9/1998   | SNS     | MTR     | WR  | WR  | Salinas          | Salinas Municipal Airport              |
| SNT      | OT-ASOS | NWS    | 3/13/1998  | SNT     | PIH     | WR  | WR  | Stanley          | Stanley Ranger Station                 |
| SPB      | ASOS    | FAA    | 8/27/1998  | SPB     | PQR     | WR  | WR  | Scappoose        | Scappoose Industrial Airpark           |
| STS      | ASOS    | FAA    | 6/3/1998   | STS     | MTR     | WR  | WR  | Santa Rosa       | Sonoma County Airport                  |
| SXT      | ASOS    | NWS    | 12/31/1992 | SXT     | MFR     | WR  | WR  | Sexton Summit    | Sexton Summit                          |
| TIW      | ASOS    | FAA    | 1/14/1999  | TIW     | SEW     | WR  | WR  | Tacoma           | Tacoma Narrows Airport                 |
| TPH      | ASOS    | FAA    | 11/29/2000 | TPH     | VEF     | WR  | WR  | Tonopah          | Tonopah Airport                        |
| TRM      | ASOS    | FAA    | 10/11/2000 | TRM     | SGX     | WR  | WR  | Palm Springs     | Thermal Airport                        |
| TTD      | ASOS    | FAA    | 6/25/1998  | TTD     | PQR     | WR  | WR  | Portland         | Portland - Troutdale Airport           |
| TUS      | ASOS    | NWS    | 1/1/1996   | TUS     | TWC     | WR  | WR  | Tucson           | Tucson Int'l. Airport                  |
| TVL      | ASOS    | FAA    | 10/18/2000 | TVL     | REV     | WR  | WR  | South Lake Tahoe | Lake Tahoe Airport                     |
| TWF      | ASOS    | FAA    | 2/27/1997  | TWF     | BOI     | WR  | WR  | Twin Falls       | Magic Valley Regional Airport (Joslin) |
| UAO      | ASOS    | FAA    | 1/29/1997  | UAO     | PQR     | WR  | WR  | Aurora           | Aurora State Airport                   |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|          |        |        | COMMISSION |         |         |     |     |              |  |
|----------|--------|--------|------------|---------|---------|-----|-----|--------------|--|
| EQUIP_ID | SYSTEM | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION     | AIRPORT NAME                           |
| UIL      | ASOS   | NWS    | 12/1/1996  | UIL     | SEW     | WR  | WR  | Quillayute   | Quillayute State Airport               |
| UKI      | ASOS   | FAA    | 1/25/2001  | UKI     | EKA     | WR  | WR  | Ukiah        | Ukiah Municipal Airport                |
| VAFB1    | ASOS   | USAF   | 8/31/1994  | VAFB1   | LOX     | WR  | WR  | Lompoc       |  |
| VAFB2    | ASOS   | USAF   | 8/31/1994  | VAFB2   | LOX     | WR  | WR  | Lompoc       |  |
| VAFB3    | ASOS   | USAF   | 8/31/1994  | VAFB3   | LOX     | WR  | WR  | Lompoc       |  |
| VCB      | ASOS   | FAA    | 3/31/1998  | VCB     | STO     | WR  | WR  | Vacaville    | Nut Tree Airport                       |
| VEL      | ASOS   | FAA    | 1/29/1998  | VEL     | GJT     | WR  | WR  | Vernal       | Vernal Airport                         |
| VGT      | ASOS   | FAA    | 9/28/2000  | VGT     | VEF     | WR  | WR  | Las Vegas    | North Las Vegas Airport                |
| VNY      | ASOS   | FAA    | 5/26/1998  | VNY     | LOX     | WR  | WR  | Van Nuys     | Van Nuys Airport                       |
| VUO      | ASOS   | FAA    | 6/19/1996  | VUO     | PQR     | WR  | WR  | Vancouver    | Pearson Field                          |
| WJF      | ASOS   | FAA    | 12/13/2000 | WJF     | LOX     | WR  | WR  | Lancaster    | General William J. Fox Airfield        |
| WMC      | ASOS   | NWS    | 10/1/1994  | WMC     | LKN     | WR  | WR  | Winnemucca   | Winnemucca Municipal Airport           |
| WVI      | ASOS   | FAA    | 7/23/1998  | WVI     | MTR     | WR  | WR  | Watsonville  | Watsonville Municipal Airport          |
| YKM      | ASOS   | NWS    | 4/1/1996   | YKM     | PDT     | WR  | WR  | Yakima       | Yakima Air Terminal (McAllister Field) |
| BIKF     | ASOS   | NAVY   | 9/1/1997   | BIKF    |         |     |     | Keflavik     | Naval Station                          |
| FJDG     | ASOS   | NAVY   |            | FJDG    |         |     |     | Diego Garcia | Naval Air Facility                     |
| FUJI     | ASOS   | USAF   | 5/1/1998   | FUJI    |         |     |     | Camp Fuji    | Camp Fuji                              |
| GRAF1    | ASOS   | USAF   | 5/31/1997  | GE-A1   |         |     |     | Grafenwoehr  | Range 301                              |
| GRAF2    | ASOS   | USAF   | 5/31/1997  | GE-A2   |         |     |     | Grafenwoehr  | Range AA                               |
| GRAF3    | ASOS   | USAF   | 5/31/1997  | GE-A3   |         |     |     | Grafenwoehr  | South Staging Area                     |
| GRAF4    | ASOS   | USAF   | 12/1/1997  | GE-A4   |         |     |     | Grafenwoehr  | Amberg LTA                             |
| KQNN     | ASOS   | NAVY   | 11/20/1996 | KQNN    |         |     |     | Naples       | NOCD Naples                            |
| KQNS     | ASOS   | NAVY   | 6/1/1997   | KQNS    |         |     |     | Sigonella    | Sigonella NAS                          |
| KQTA     | ASOS   | NAVY   |            | KQTA    |         |     |     | Atsugi       | Atsugi NAS                             |
| LERT     | ASOS   | NAVY   | 5/1/1997   | LERT    |         |     |     | Rota         | Naval Station                          |
| LGSA     | ASOS   | NAVY   |            | KQNC    |         |     |     | Souda Bay    | NOCD Souda Bay                         |

## **TECHNICAL EXHIBIT 8**

## **AUTOMATED SERVICE OBSERVING SYSTEMS**

|             |        |        | COMMISSION |         |         |     |     |                |                   |
|-------------|--------|--------|------------|---------|---------|-----|-----|----------------|-------------------|
| EQUIP_ID    | SYSTEM | AGENCY | DATE       | SITE_ID | WFO/CWA | REG | REG | LOCATION       | AIRPORT NAME      |
| MSWA1       | ASOS   | USAF   | 6/13/1997  | JA.A2   |         |     |     | Misawa         | Ripsaw Range      |
| MUGM        | ASOS   | NAVY   | 9/7/1996   | MUGM    |         |     |     | Guantanamo Bay | Naval Air Station |
| NZCM        | ASOS   | NAVY   | 10/31/1995 | NZCM    |         |     |     | Antartica      |                   |
| NZCM2       | ASOS   | NAVY   | 10/31/1996 | NZCM2   |         |     |     | Antartica      |                   |
| RJFW        | ASOS   | NAVY   | 11/20/1996 | RJFW    |         |     |     | Sasebo         | Sasebo NAF        |
| RJOI        | ASOS   | NAVY   | 11/1/1997  | RJOI    |         |     |     | lwakuni        | Sasebo MCAS       |
| RJTX        | ASOS   | NAVY   | 6/30/1997  | RJTX    |         |     |     | Yokosuka       | NOCD Yokosuka     |
| ROTM        | ASOS   | NAVY   | 11/1/1997  | ROTM    |         |     |     | Futemma        | Futemma MCAS      |
| ZAMA        | ASOS   | USAF   | 5/1/1998   | ZAMA    |         |     |     | Camp Zama      | Camp Zama         |
| RAND TOTAL: | 994    |        |            |         |         |     |     |                |                   |
|             | NWS:   | 313    |            |         |         |     |     |                |                   |
|             | FAA:   | 572    |            |         |         |     |     |                |                   |
|             | USN:   | 75     |            |         |         |     |     |                |                   |
|             | USAF:  | 34     |            |         |         |     |     |                |                   |

**Procurement Sensitive** 

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## **TECHNICAL EXHIBIT 9**

# LIST OF CUSTOMERS WITH CIRCUITS

| <u>Customer</u>                              | Number of Circuits |
|--|--------------------|
| National Center for Environmental Prediction | 2                  |
| Office of Hydrology                          | 1                  |
| Haiti  | 1                  |
| Ship   | 3                  |
| Tokyo  | 1                  |
| WAFS   | 2                  |
| Federal Aviation Administration (FAA)        | 3                  |
| VIASALA                                      | 1                  |
| Honolulu                                     | 2                  |
| SPC  | 1                  |
| TPC  | 1                  |
| AWC  | 1                  |
| Public Products Service                      | 1                  |
| Domestic Data Service                        | 1                  |
| International Data Svc                       | 1                  |
| Office of Naval Intelligence                 | 1                  |
| Wallops Island                               | 1                  |
| Dial Receive                                 | 1                  |
| Dial Receive                                 | 1                  |
| Canada                                       | 1                  |
| Bracknell                                    | 1                  |
| DoD Network                                  | 1                  |
| Saudi Arabia                                 | 1                  |
| Pretoria                                     | 1                  |
| NDBC   | 1                  |
| Brazil                                       | 1                  |

## **TECHNICAL EXHIBIT 9**

# LIST OF CUSTOMERS WITH CIRCUITS

| Argentina                                 | 1 |
|---|---|
| Air Resources Lab                         | 1 |
| Weather Information Message System (WIMS) | 1 |
| Eastern Region Headquarters               | 1 |
| Central Region Headquarters               | 1 |
| Southern Region Headquarters              | 2 |
| Western Region Headquarters               | 1 |
| Alaska Region Headquarters                | 1 |
| Johnson Space Flight Center               | 1 |
| NASA Goddard                              | 1 |
| NCDC                                      | 2 |
| FAA (Atlantic City)                       | 1 |
| NWWS (Chantilly)                          | 2 |
| Honolulu (Pacific Star4)                  | 1 |
| New Orleans (Marta)                       | 1 |
| Boston (Marta)                            | 1 |
| Point Reyes (Marta)                       | 1 |
| EMWIN                                     | 1 |
| National Ice Center                       | 1 |
| NESDIS                                    | 1 |
| NCF                                       | 3 |
| Commercial Customer #1                    | 1 |
| Commercial Customer #2                    | 1 |
| Commercial Customer #3                    | 1 |
| Commercial Customer #4                    | 2 |
| Commercial Customer #5                    | 5 |
| Commercial Customer #6                    | 5 |

## **TECHNICAL EXHIBIT 9**

# LIST OF CUSTOMERS WITH CIRCUITS

| Commercial Customer #7  | 1 |
|-------------------------|---|
| Commercial Customer #8  | 1 |
| Commercial Customer #9  | 1 |
| Commercial Customer #10 | 3 |

### **TECHNICAL EXHIBIT 10**

### **DATA FLOW**

